An Evaluation of the Pre-treatment Motivation Groups run by The South Island Eating Disorders Service.

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Michelle Rona Davey

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Contents

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Abstract

Eating disorders are defined by a complex interaction between emotional, cognitive and interpersonal challenges in addition to behaviours used to control weight or shape. One of the major challenges with the treatment of eating disorders is ambivalence, low motivation to engage in treatment, and a high treatment dropout rate. Motivational Interviewing is a therapeutic style that elicits intrinsic motivation from within the patient to drive behaviour change. The current study provides an evaluation of the effectiveness of the two pretreatment group motivation interventions delivered by the South Island Eating Disorder Service. Significant changes in motivational stage of change were observed in both the Motivation and Education Group and the pure Motivation Group. Significant improvements in patient readiness, confidence and importance to change as well as treatment attendance were identified in the pure Motivation Group. Recommendations for future treatment development are presented.

Keywords: Eating disorders, group intervention, motivational interviewing.

Eating disorders have the highest mortality rate of all psychiatric disorders and treatment is demonstrated to be effective for only some of this population (Fairburn, 2008). People with eating disorders are likely to judge their self worth predominantly on their shape, weight and their ability to control these (Fairburn, 2008). Eating disorders are defined by a complex interaction between emotional, cognitive and interpersonal challenges, in addition to behaviours used to control weight or shape (American Psychiatric Association, 2000). While there have been some improvements in treatment effectiveness for Bulimia Nervosa (BN), empirically supported treatment for Anorexia Nervosa (AN) is still under investigation. One of the major challenges with treatment of both disorders is ambivalence, low motivation to engage in treatment, and a high number of patients that drop out of treatment (Casasnovas, et al., 2007; Treasure, et al., 1999; Vandereycken, 2006). Research identified that a patient's readiness to recover directly impacted their treatment outcomes (Herzog, Keller, & Lavori, 1988). In order to increase the effectiveness of treatment provided to this vulnerable population an exploration of how to enhance motivation to change is required.

Characteristics

The Transdiagnostic Model of eating disorders (Fairburn, 2008) suggests that all of the eating disorders share central core psychopathology that is cognitive in nature.
Key psychopathological characteristics include;

- Extreme food restriction: This is the creation of multiple strict and specific rules around what an individual can and cannot eat. The success of the implementation of these rules varies, however if the individual becomes significantly underweight they are likely to experience adverse physical and psychosocial effects. The cognitive effects of weight loss can contribute to the maintenance of the disorder, by creating a pre occupation with food, heightened sense of being full and social withdrawal.

Cognitive impairments also include reduced concentration, poor sleep quality, and increased obsessional thought content.

- Excessive exercise is predominantly used to control weight and as a way of altering body shape.
- Binge eating: Defined as an episode of eating when an objectively or subjectively large amount of food is eaten. This is paired with a sense of loss of control while eating. Most patients find binge eating highly distressing as it is incompatible with their desire to control their body weight and shape and it is often the reason they seek professional help.
- Purging: The removal of food eaten during a previous episode (compensatory purging), or purging frequently as a method to manage weight may include behaviours such as vomiting, laxative or diuretic use.

(Fairburn, 2008)

Perfectionism and low self esteem are commonly identified in eating disorder patients and are often present prior to the development of eating disorder symptoms (Fairburn, 2008). Perfectionism is associated with AN and lower body weight, preoccupation with rituals and rules and lowered motivation to change (American Psychiatric Association, 2000; Gleaves, Brown, & Warren, 2004; Halmi, 2010). Perfectionism is closely associated with obsessive compulsive personality features, and this combination may be relevant in developing a greater understanding of the phenotype of eating disorders (Halmi, et al., 2005).

Further exploration of specific characteristics and behavioral traits associated with eating disorders has included investigation of neurocognitive profiles, specifically understanding of the roles of cognitive flexibility and weak central coherence. A weak central coherence is a tendency to focus on details rather than integrating parts into a global context, and it is often associated with Autistic Spectrum Disorders (Lopez, Tchanturia, Stahl, &

Treasure, 2008, 2009; Roberts, Barthel, Lopez, Tchanturia, & Treasure, 2011). A meta analysis of processing abilities in patients with eating disorders identified consistently weak global processing in those with an eating disorder compared to control populations (Lopez, et al., 2008). Similar findings were identified for cognitive flexibility where eating disorder patients had poorer cognitive flexibility than the control group (Roberts, Tchanturia, Stahl, Southgate, & Treasure, 2007). It is hypothesized that weak coherence and difficulties with cognitive flexibility are a stable characteristic for eating disorders (Lopez, et al., 2009; Roberts, et al., 2011).

Diagnostic Features of Eating Disorders

Anorexia Nervosa. AN is one of the most severe psychiatric disorders that predominately effects women with onset typically during adolescence (Wentz, Gillberg, Anckarsater, Gillberg, & Rastam, 2009). AN is characterized by a fanatical pursuit of thinness and failure to maintain a normal weight. These behaviors are accompanied by a preoccupation with food, weight, body shape and the fear of being or becoming fat (American Psychiatric Association , 2000). The diagnostic criteria for AN, including subtypes are presented in Table 1.

Table 1

DSM-IV-TR criteria for Anorexia Nervosa (American Psychological Association, 2000).

DSM-IV-TR Diagnostic Criteria for Anorexia Nervosa
A. Refusal to maintain body weight at or above a minimally normal weight for age and height (e.g., weight loss leading to maintenance of body weight less than 85% of that expected; or failure to make expected weight gain during period of growth, leading to body weight less than 85% of that expected).
B. Intense fear of gaining weight or becoming fat, even though underweight.
C. Disturbance in the way in which one's body weight or shape is experienced, undue influence of body weight or shape on self-evaluation, or denial of the seriousness of the current low body weight.
D. In postmenarcheal females, amenorrhea, i.e., the absence of at least three consecutive menstrual cycles. (A woman is considered to have amenorrhea if her periods occur only following hormone, e.g., estrogen, administration.)
Specify subtype:
Restricting Type: during the current episode of Anorexia Nervosa, the person has not regularly engaged in binge eating or purging behavior (i.e., self-induced vomiting or the misuse of laxatives, diuretics, or enemas)
Binge-Eating/Purging Type: during the current episode of Anorexia Nervosa, the person has regularly engaged in binge eating or purging behavior (i.e., self-induced vomiting or the misuse of laxatives, diuretics, or enemas)

There is currently a considerable review of the Diagnostic and Statistical Manual of Mental Disorders Fourth Edition (Text Revision) (DSM-IV-TR) (American Psychiatric Association, 2000) with the 5th edition due to be released in 2013. The diagnostic criteria for Eating Disorders are being overhauled dramatically. Changes proposed for the AN criteria include the removal of the specific weight range (i.e less than 85% of that expected) as it is reported this is frequently used as a definitive cut off point (www.dsm5.org). It will be replaced by the term “significantly low weight”, with further clarification provided in the text, such as a guideline of a Body Mass Index (BMI) of less than 18.5 in adults or a weight that is below the 10th percentile for children and adolescents. Criterion B was revised to include a focus on behaviours that interfere with weight gain, in addition to a fear of gaining weight. It is proposed that criterion D will be removed as this automatically excludes pre-menarchal women, women using contraceptives, post-menopausal women and men, despite presenting

with all other symptoms of AN. Finally an inclusion of a 3 month time frame to both of subtypes will help to clarify the current episode (www.dsm5.org).

Bulimia Nervosa. BN is characterised by repeated episodes of binge eating during periods of dieting and fasting. During binges patients experience a subjective loss of control consuming large amounts of food, often eating more than most people would eat in similar circumstances and periods of time. Episodes of bingeing are followed by the use of compensatory behaviours to rid the body of unwanted calories (American Psychiatric Association, 2000; Herpertz-Dahlmann, 2009). Compensatory behaviours include; fasting, vomiting, laxative abuse, use of diuretics and excessive exercise. The current DSM-IV-TR criteria for BN are presented in Table 2.

Table 2

DSM-IV-TR criteria for Bulimia Nervosa (American Psychological Association, 2000).

DSM-IV-TR Diagnostic Criteria for Bulimia Nervosa
A. Recurrent episodes of binge eating. An episode of binge eating is characterized by both of the following:
(1) eating, in a discrete period of time (e.g., within any 2-hour period), an amount of food that is definitely larger than most people would eat during a similar period of time and under similar circumstances
(2) a sense of lack of control over eating during the episode (e.g., a feeling that one cannot stop eating or control what or how much one is eating)
B. Recurrent inappropriate compensatory behaviour in order to prevent weight gain, such as self-induced vomiting; misuse of laxatives, diuretics, enemas, or other medications; fasting; or excessive exercise.
C. The binge eating and inappropriate compensatory behaviours both occur, on average, at least twice a week for 3 months.
D. Self-evaluation is unduly influenced by body shape and weight.
E. The disturbance does not occur exclusively during episodes of Anorexia Nervosa.
Specify subtype:
Purging Type: during the current episode of Bulimia Nervosa, the person has regularly engaged in self-induced vomiting or the misuse of laxatives, diuretics, or enemas
Nonpurging Type: during the current episode of Bulimia Nervosa, the person has used other inappropriate compensatory behaviours, such as fasting or excessive exercise, but has not regularly engaged in self-induced vomiting or the misuse of laxatives, diuretics, or enemas

Proposed changes to the BN diagnostic criteria include reducing the frequency of binges in criterion C from twice a week to once a week, as patients who reported less frequent bingeing do not appear clinically different (www.dms5.ord). The major change to the BN classification is the proposed deletion of the Non Purging subtype as a review of the literature suggested these individuals closely resemble those with Binge Eating Disorder (BED) (www.dsm5.org).

Eating Disorder Not Otherwise Specified. Eating Disorder No Otherwise Specified (EDNOS) is a category for patterns of disordered eating that do not meet criteria for either

AN or BN. EDNOS is currently the most common eating disorder in clinical and community samples (Smink, van Hoeken, & Hoek, 2012). Part of the difficulty with this particular population is its heterogeneity as it contains partial syndromes of AN, BN and BED. One of the primary goals of the revision of DSM5 is to reduce the size of the EDNOS category by widening the criteria for AN and BN and the addition of the BED criteria (Smink, et al., 2012; Wonderlich, Gordon, Mitchell, Crosby, & Engel, 2009). The current criteria are presented in Table 3.

Table 3

DSM-IV-TR criteria for Eating Disorder Not Otherwise Specified (American Psychological Association, (2000).

DSM-IV-TR Diagnostic Criteria for eating Disorder Not Otherwise Specified
The Eating Disorder Not Otherwise Specified category is for disorders of eating that do not meet the criteria for any specific Eating Disorder. Examples include
1. For females, all of the criteria for Anorexia Nervosa are met except that the individual has regular menses.
2. All of the criteria for Anorexia Nervosa are met except that, despite significant weight loss, the individual's current weight is in the normal range.
3. All of the criteria for Bulimia Nervosa are met except that the binge eating and inappropriate compensatory mechanisms occur at a frequency of less than twice a week or for a duration of less than 3 months.
4. The regular use of inappropriate compensatory behavior by an individual of normal body weight after eating smallamounts of food (e.g., self-induced vomiting after the consumption of two cookies).
5. Repeatedly chewing and spitting out, but not swallowing, large amounts of food.
6. Binge-eating disorder: recurrent episodes of binge eating in the absence of the regular use of inappropriate compensatory behaviors characteristic of Bulimia Nervosa (see Appendix B in DSM-IV-TR for suggested research criteria).

The future edition of the DSM proposes that BED be included as a specific diagnostic classification, with the following criteria as presented in Table 4.

Table 4

Proposed DSM5 Diagnostic Criteria for Binge Eating Disorder (www.dsm5.org)

DSM5 Proposed Diagnostic Criteria for Binge Eating Disorder
A. Recurrent episodes of binge eating. An episode of binge eating is characterized by both of the following:
1. Eating, in a discrete period of time (e.g., within any 2-hour period), an amount of food that is definitely larger than most people would eat in a similar period of time under similar circumstances
2. A sense of lack of control over eating during the episode (for example, a feeling that one cannot stop eating or control what or how much one is eating)
B. The binge-eating episodes are associated with 3 (or more) of the following:
1. Eating much more rapidly than normal
2. Eating until feeling uncomfortably full
3. Eating large amounts of food when not feeling physically hungry
4. Eating alone because of feeling embarrassed by how much one is eating
5. Feeling disgusted with oneself, depressed, or very guilty after overeating
C. Marked distress regarding binge eating is present.
D. The binge eating occurs, on average, at least once a week for 3 months.
E. The binge eating is not associated with the recurrent use of inappropriate compensatory behavior and does not occur exclusively during the course Bulimia Nervosa or Anorexia Nervosa.

A thorough review of the rationale and evidence for inclusion of BED in the DSM-5 is beyond the scope of the current literature review and can be found in the paper Wonderlich, Gordon, Mitchell, Crosby, & Engel (2009) titled “The Validity and Clinical Utility of Binge Eating Disorder” in addition to information contained on the DSM5 web site (www.dms5.org).

Epidemiology

The study of epidemiology within eating disorders is challenged by the limited number of cases, and the patients desire to conceal their illness (Smink, et al., 2012). Many

epidemiology studies use medical records which tend to underestimate the number of cases, as not all patients are identified by their GP, or referred to hospital or mental health care (Smink, et al., 2012). Four types of data are typically presented during epidemiology studies; Incidence rates are the rate of new eating disorder cases in the population over a certain period of time, usually presented as a number per 100,000 persons-year. Point prevalence is the number of people who have an eating disorder at a specific point in time. Lifetime prevalence refers to the proportion of people who had the disorder at any one point of their life. Finally a mortality rate presents the number of deaths within a particular population over a specific period of time (Herpertz-Dahlmann, 2009; Hoek, 2006; A Keski-Rahkonen, et al., 2007; Smink, et al., 2012). The following chapter presents incidence, prevalence and mortality rates for AN, BN, EDNOS (and in some cases BED).

Anorexia Nervosa. A comparison of incidence rates derived from community studies in the United Kingdom showed a relatively stable number of patients diagnosed with AN overtime, 4.2 per 100,000 person-years in 1993 (Turnbull, Ward, Treasure, Jick, & Derby, 1996) compared to 4.7 per 100,000 person-years in 2000 (Currin, Schmidt, Treasure, & Jick, 2005). Similar findings were identified in the Netherlands between 1995 – 1999 with an incidence of 7.7 per 100,000 person–years and similarly 7.4 per 100,000 person-years 1985 – 1989 (van Son, van Hoeken, Bartelds, van Furth, & Hoek, 2006). More recently incidence rates of AN in women are reportedly between 4.7 and 7.7 per 100,000 (Herpertz-Dahlmann, 2009; Hoek, 2006).

There is limited variability in the age of onset of AN, with a greater incidence of AN demonstrated in 15 – 19 year olds, with this age range making up 40% of all cases (Hoek & Van Hoeken, 2003; van Son, et al., 2006). The incidence of eating disorders in younger children (under the age of 13) is relatively rare, with findings reported between 1.4 to 2.6 per

100,000 person-years in Australian and Canadian populations respectively (Smink, et al., 2012). It has been difficult to accurately identify the number of men who suffer from AN due to the small number of cases, however it is suggested that between 1 and .05 men per 100,000 person-years are diagnosed with AN (Currin, et al., 2005; Greenberg & Schoen, 2008; van Son, et al., 2006).

Life time prevalence rates of women between the ages of 20 and 40 are estimated to be between 1.2 and 2.2% (Herpertz-Dahlmann, 2009; Hoek, 2006), with male lifetime prevalence rates of 0.3% (Greenberg & Schoen, 2008). A large New Zealand population study estimated a life time prevalence of 0.2% to 1% for women between ages 16 and 64 (Oakley Browne, Wells, Scott, & Mcgee, 2006). A meta analysis by Smink et al. (2012) reported life time prevalence rates from twin studies between 1.2 and 2.2%. If the proposed DSMV changes are considered the lifetime prevalence of this broader AN group is reported at between 2.4 and 4.3%. The ego-syntonic features of the disorder (that is, patients behaviours are consistent with their values and goals) at the onset of illness reduces the number of patients who independently seek treatment. Most patients do not seek help unless referred by concerned friends, family, school personnel or general practitioners (Attia, 2010). This may contribute to the difficulty of identifying rates on AN in the population, highlighted by the finding that one study estimated 50% of AN cases in community sample that were not identified through healthcare settings (Herpertz-Dahlmann, 2009).

Bulimia Nervosa. Smink et al. (2012) reported the incidence rate of BN was 200 per 100,000 person years at peak age of incidence 16 – 20. Again a broader definition in line with proposed DSMV criteria identified rates of 300 per 100,000 person years for 16 – 20 year old females and 438 per 100,000 person years in 15 to 18 year olds. Overall incidence rates in the

Netherlands were 8.6 per 100,000 person years between 1985 - 189(van Son, et al., 2006) and 6.1 per 100,000 person years in 1995-1999 (van Son, et al., 2006). The UK incidence rate of BN in women aged 10 – 19 was reported at 40 per 100,000 person-years in 1993 and 2000 (Currin, et al., 2005). It has been suggested that the age of onset for BN may be decreasing due to the mean age of patients entering services reducing, although earlier detection may contribute to this (Smink, et al., 2012).

Point prevalence was reported between 1 and 1.7% in European populations (Smink, et al., 2012), with life time prevalence rates for women between 16 to 64 years in New Zealand between 0.9 and 2.0% (Oakley Browne, et al., 2006). European populations revealed life time prevalence for BN in adult women between 1.7 and 2.9% (Smink, et al., 2012). A Finnish twin study took the proposed DMSV changes into consideration and reported the life time prevalence would rise from 1.7 to 2.3% (A. Keski-Rahkonen, et al., 2009). In terms of gender differences, 90 percent of those diagnosed with BN are female, although males with BN tend to have higher rates of pre-morbid obesity (American Psychiatric Association, 2000). The mortality rates for those diagnosed with BN is 1.74 per 1000 person years suggesting that 0.17% of bulimic patients die each year (Smink, et al., 2012).

Eating Disorder Not Otherwise Specified. Given that the EDNOS category is undefined epidemiological studies are sparse, except in the instance of BED (Smink, et al., 2012). Incidence rates for EDNOS are reportedly 6.5 per 100,000 person-years in adults (Larranaga, Docet, & Garcia-Mayor, 2012) and 1.2 per 100,000 person years for children under the age of 13 (Smink, et al., 2012). Point prevalence was reported for EDNOS in young females as 2.4% (Larranaga, et al., 2012) and lifetime prevalence for BED at between 1.9% and 3.55% in women and between .3% and 2% in men (Smink, et al., 2012).

Migration between Diagnoses

There is considerable movement between the eating disorder diagnoses, with only a very small number of individuals remaining stable (Fairburn, 2008; Fairburn, et al., 2009). The movement is not considered to be random, but instead reflects the fact eating disorders start with dietary restraint and restriction but the ability to control this typically breaks down and binge eating develops (Fairburn, 2008). Those who meet diagnostic criteria for AN tend to do so earlier in the course of the disorder and progress to BN or EDNOS (Fairburn, 2008). It is suggested that between 25 and 30% of patients seeking treatment for BN have a history of AN (Klump, Kaye, & Strober, 2001). There has been considerable controversy surrounding the classification of eating disorders and the movement through diagnoses as the illness course progresses. Research suggests that the classifications of eating disorders which involve Binge Eating (e.g. BN, BED and AN-Binge/Purge Subtype) are on a continuum. The Restricting subtype of AN may be qualitatively different compared to eating disorders involving bingeing (Gleaves, et al., 2004). There is an uneven distribution of the eating disorder population between classifications, with between 50 and 60 percent of people with an Eating Disorder diagnosed with EDNOS, 30% are diagnosed with BN and between 10 and 15% with AN. Slight differences were observed within the adolescent eating disorder population, with a greater proportion of patients diagnosed with EDNOS, followed by AN then BN (Fairburn, 2008).

Course and Prognosis

Anorexia Nervosa. Individuals with AN present with a variable course and outcomes, with only a minority achieving remission within one year of onset, while most struggle with the illness for 10 years (Keel, 2010). Long term outcome studies have identified that less than 50% of patients diagnosed with AN achieve full recovery, 30% remain symptomatic but demonstrate some improvement and 20% remain chronically ill (Steinhausen, 2002). Among

the patients who were deemed to make improvements are those that develop binge/purge behaviours, therefore experiencing weight gain and shifting from a diagnosis of AN to BN (Keel, 2010). It is reported that those with the worse prognosis are diagnosed at an older age with longer periods of time between onset and treatment (Steinhausen, 2002). Mortality rates for AN are reported to be the highest of any psychiatric condition (Birmingham, Su, Hlynsky, Goldner, & Gao, 2005; Fairburn, 2008) with standardized mortality rates (ratio of observed deaths to expected deaths) ranging from 0.71 to 17.8. A meta analysis of mortality rates in 954 Canadian patients identified a standardized mortality rate of 10.0, a more than tenfold increase in the risk of premature death (Birmingham, et al., 2005). Mortality within the AN population is primarily due to suicide and starvation with 17% of those with a lifetime AN diagnosis reporting at least one suicide attempt (Keel, 2010).

Bulimia Nervosa. Patients with BN are more likely to have a favorable outcome compared to those with AN. Longitudinal studies have demonstrated that 5 years after diagnosis 70% of individuals achieve recovery, 20% show some improvement although remain symptomatic and 10 % remain chronically ill (Fichter & Quadflieg, 2007). Worse prognosis was observed in individuals who had comorbid alcohol use. Those who improved stopped experiencing large binges but continued recurrent purging to control shape or weight (Keel, 2010). A 12 year follow up identified 1.8% of BN patients met the criteria for AN, 1.9% moved to a diagnosis of BED, and 13.6% met criteria for EDNOS (Fichter & Quadflieg, 2007). Compared to mortality rates with AN, BN is less likely to result in premature death, with standardized mortality rates are close to 1.0, indicating no increase compared to a demographically matched individual without BN (Keel, et al., 2003). Although no elevated risk of premature death is observed in patients with BN, suicide attempts are observed in between 25 and 30% of patients. The difference between patients with AN and BN is thought to be related to patients with BN utilizing less lethal methods,

with a greater emphasis on regulating affect as opposed to patients with AN who wish to end their lives, and subsequently are motivated to use more lethal methods (Corcos, et al., 2002).

Eating Disorder Not Otherwise Specified. It is difficult to reliably describe the course and outcomes of a category that is designed to act as a "catch all". There are limited studies have indentified the course of BED. Small studies (populations between 48 and 60) report that at follow up between 5 and 6 years 78.3 - 82% of individuals no longer met criteria, between 4 and 6.7% still met full criteria and 1.7% had died. At a follow up five years later there was no cross over between BED and AN, but between 3 and 8.3% of individuals now met criteria for BN, and 5% met criteria for EDNOS (Fairburn, Cooper, Doll, Norman, & O'Connor, 2000; Fichter & Quadflieg, 2007). The mortality rate for EDNOS was reported at 3.31 deaths per 1000 person years. Smink et al. (2012) suggested that any elevated mortality risk could partially be explained by the inclusion of sub threshold AN cases. With regards to BED a mortality rate of 2.9% could be linked to obesity, as 42% of those who received a lifetime diagnosis of BED were obese (BMI > 30kg/m^2) with a significantly greater number of morbidly obese (BMI>40 kg/m^2) individuals compared to non eating disordered population (Smink, et al., 2012).

Comorbidity

Mood disorders are the most prevalent psychiatric disorder associated with eating disorders, with between 41 and 80% of patients with AN and between 70 and 92.9% of patients with BN a receiving a comorbid diagnosis of any mood disorder. Rates for Bipolar Disorder are greater in BN patients with between 7 and 17% having a comorbid Bipolar (I or II) diagnosis compared to 0 – 3% of the AN population (Halmi, 2010). Comorbidity rates for any anxiety disorder range from between 41 and 72% of the AN population and between 43 and 86% of BN population studied (Halmi, 2010) and do not differ substantially between Anxiety Disorders. The exception is Post Traumatic Stress Disorder which is seen three times

more often in BN than in AN (Kaye, Bulik, Thornton, Barbarich, & Masters, 2004). More than two thirds of the study population of a study by Kaye et al. (2004) identified one or more anxiety disorders with the most common being Obsessive Compulsive Disorder (41%) and Social Phobia (20%). While it is more likely that Anxiety Disorders predate an Eating Disorder diagnosis, comorbid substance abuse is likely to precede an Eating Disorder diagnosis (Agras, 2010). Rates of comorbid Substance Abuse are greater in BN patients (12 – 26%) compared to AN patients (8 -17%). Substance abuse comorbidity is the lowest in patients with the restricting subtype of AN compared to patients who binge eat and purge (Halmi, 2010).

Impulse Control Disorders are more likely to be prevalent in patients with BN than AN, with rates for AN restricting subtype reported at 1.7% compared to 21.8% of the BN population (Halmi, 2010). Similar findings have demonstrated greater percentages of BN patients receiving comorbid diagnosis for Attention Deficit Hyperactivity Disorder (34.9%), Oppositional Defiant Disorder (26.9%) and Conduct Disorder (26.5%) compared to patients with AN (16.2%, 10.5%, and 9.8% respectively) (Halmi, 2010).

Personality Disorder comorbidity rates also vary within eating disorder diagnoses, with 28% of BN patients diagnosed with any Cluster B Personality Disorder (Halmi, 2010). Cluster B Personality Disorders are characterised by impulsive, dramatic and emotional or erratic styles of interaction, and includes Antisocial, Borderline, Histrionic and Narcissistic Personality Disorder (American Psychiatric Association, 2000). Cluster C Personality Disorders are characterised by anxious or fearful interactions and were reported in 29% of AN patients and 50% of BN (Halmi, 2010).

Treatment in Eating Disorders

The most widely used treatment for BN is Cognitive Behavioural Therapy (CBT) based on the psychopathological processes that are hypothesized to maintain the disorder

(Fairburn, 2008). CBT integrates cognitive and behavioural strategies to enhance motivation to change, replace dysfunctional dieting with healthy eating patterns, eliminate purging and other forms of extreme weight control, decrease over concern with shape and weight and prevent relapse prevention (Fairburn, 2008; Wilson, 2010). The cognitive behavioural model on which CBT for BN is based has significant clinical and empirical support (Fairburn, 2008) and use of CBT-BN has been extensively reviewed and is the preferred treatment option for BN as reported by the National Institute of Health and Clinical Excellence (NICE, 2004) guidelines (Wilson & Shafran, 2005). However manualised CBT-BN is not sufficient in treating all BN patients as it eliminates binge eating and purging in only 30 to 50% of patients (Wilson, 2010). Improving the efficacy of CBT-BN has been attempted with the combination of CBT-BN and antidepressant medication, although this has not reliably increased efficacy compared to CBT-BN alone (NICE, 2004). Other models of treatment such as Interpersonal Therapy (IPT) are shown to be as effective as CBT in a reduction of binge eating and purging at 1 year follow up, although not as effective as CBT immediately after treatment (Agras, et al., 2000). In an attempt to expand its efficacy a revision of the CBT-BN model led to the development of Cognitive Behavioural Therapy- Enhanced (CBT-E). CBT-E is a manualised intervention based in the transdiagnostic theory and is not based upon the DSM diagnostic criteria. The original model was expanded with the introduction of maintaining factors of mood intolerance, low self esteem, perfectionism and interpersonal difficulties presentation (Fairburn, 2008). A large study identified that CBT-E was just effective as CBT-BN with patients with BN, as well as being effective with patients with EDNOS (Fairburn, et al., 2009).

In contrast to BN there are fewer controlled treatment studies on AN, partially due to the rarity of the illness (Wilson, 2010). The NICE guidelines (2004) report that all treatments evaluated were all a “grade C” suggesting there were not enough clinical studies of an

appropriate quality to be reviewed. The exception was Maudsley Family Therapy for children and adolescents which was deemed the most promising treatment for adolescents with AN. Studies have not shown CBT to be effective with AN patients when compared to other psychotherapies, with a pattern of some improvements but without complete remission (Wilson, 2010). Research has not yet identified the efficacy of CBT-E for the treatment of AN (Wilson, 2010) even though Fairburn (2008) has included strategies for working with low weight, insufficient eating and reluctance to gain weight, all of which are characteristic of AN.

Group Treatment within Eating Disorders

A stepped care approach in which treatments are provided sequentially according to need has been recommended within the eating disorder population (Fairburn, Agras, & Wilson, 1992). A stepped care approach is the integration of care ranging from the simplest least costly treatment with more complex interventions administered to patients who do not respond (Wilson, Vitousek, & Loeb, 2000). Group therapy is often used in psychological treatment facilities as it is a cost effective method of disseminating treatment while providing patients with additional therapeutic factors, including opportunities for shared learning experiences and mutual support. The goal of psychoeducation within the field of eating disorders is to normalize eating patterns and shape/weight concerns through didactic instruction, and is comprised of cognitive behavioral change strategies and education (Wilson, et al., 2000). Self help and psychoeducational approaches that require minimal staff input have demonstrated significant reductions in eating disorder symptoms compared to waiting list control groups in patients with BN and BED (Davis, Olmsted, & Rockert, 1990; Peterson, et al., 1998; Treasure, et al., 1994). The lower levels of a stepped care approach are inapplicable for AN patients, as their lack of motivation for change calls for intensive sustained professional intervention (Wilson, et al., 2000).

In discussing the treatment options for AN the NICE guidelines (2004) state:

> *"Many people with anorexia nervosa find it hard to acknowledge that they have a problem and are ambivalent about change. This contributes to their reluctance to engage with treatment and services. A precondition for any successful psychological treatment is the effective engagement of the patient in the treatment plan. Health care professionals involved in the treatment of anorexia nervosa should take time to build an empathic, supportive and collaborative relationship with patients and, if applicable, their carers. This should be regarded as an essential element of the care offered. Motivation to change may go up and down over the course of treatment and the therapist needs to remain sensitive to this. Special challenges in the treatment of anorexia nervosa include the highly positive value placed by people with anorexia nervosa on some of their symptoms, and their denial of the potentially life-threatening nature of their disorder."* (Treatment and Management of Anorexia, page 82, www.nice.org.uk).

Motivation to Change in Eating Disorders

AN is characterised by poor motivation ,ambivalence and resistance to change (Feld, Woodside, Kaplan, Olmsted, & Carter, 2001; Price-Evans & Treasure, 2011; Wade, Frayne, Edwards, Robertson, & Gilchrist, 2009). Treatment is often hindered by the egosyntonic qualities of AN, as the sense of pleasure and accomplishment that patients with AN gain from their pursuit of thinness can make engagement in therapy difficult (Price-Evans & Treasure, 2011; Wade, et al., 2009). For patients with BN the ambivalence about establishing a regular eating pattern can lead to a struggle between patient and therapist, and subsequently hinder progress.

Resistance to change may not present in a typically argumentative fashion, as some patients with AN want to please and may avoid expressing irritation or anger. Therapy

sessions may progress with agreement yet patients continue to lose weight. Differing levels of motivation to change are reflected in different eating disorder diagnoses. Lower motivation to change in frequently observed in patients with AN, given the egosyntonic nature of the symptoms. A greater desire and need for treatment seen in individuals with BN, as the binge eating is a behaviour that is opposite to the individual's goal of weight and shape control. Differing levels of motivation across the eating disorders diagnoses could be attributed to low self efficacy and the patients' beliefs about their own ability to change (Casasnovas, et al., 2007). It is particularly challenging when a patient's ambivalence is contrasted with a sense of medical urgency for change. Due to their resistance to treatment patients with eating disorders have been compared to patients with substance abuse (Vitousek, Watson, & Wilson, 1998). Both patient populations are commonly described as unmotivated and both are reluctant to present for treatment on their own initiative (Feld, et al., 2001). However it is the aligning of current behaviour and future goals that makes these two populations different. Patients with eating disorders, and society to some extent, value appearance and use it as a marker of success, while intoxication is seen as clashing with longer term goals (Killick & Allen, 1997).

The Process of Change

Behaviour change can be conceptualized as a process that develops over time progresses through a series of stages. The Transtheoretical Model of Change (TTM) (Prochaska & DiClemente, 1983; Prochaska & Norcross, 2001) presents a model of six stages of change that people move through as they move towards behaviour change. Change begins at *precontemplation* when an individual is not currently considering change, to *contemplation* when the individual undertakes a serious evaluation of considerations for and against change, to *preparation* where planning and commitment are strengthened, and *action* when behavioural change occurs. If successful, the individual works at maintaining changes in

maintenance. The final stage is *termination* where people have completed the behaviour change process and no longer have to work to prevent relapse (Prochaska & DiClemente, 1983). Movement through the stages of change requires motivation, effort and energy (DiClemente & Marden velzsquez, 2008). The stages of change are present regardless of the target behaviour and movement can occur in either direction (Prochaska & Norcross, 2001). The TTM can be applied to patients with eating disorders, and may to help explain some of the varied responses to treatment. Ideally intensive individual treatment is intended for people who are in the action phase (Feld, et al., 2001) and failure in treatment occurs because the treatment approach does not match the patients stage of change (Prochaska & Norcross, 2001). The TTM model for change highlights the variations of a person's current readiness to change upon entering treatment, and identifies the therapist's role to enhance motivation to change. Motivational Interviewing (MI) complements the TTM as it provides the specific style to enhance long lasting personal change (DiClemente & Marden velzsquez, 2008).

Motivational Interviewing

The initial process of MI begins with the therapist having a thorough understanding of the "MI spirit" It is the MI spirit that describes a way of being with a patient through the use of the three fundamental approaches of collaboration, evocation and autonomy. Miller & Rollnick (2002) explain the use of a collaborative partnership between patient and therapist avoids an authoritarian stance, allowing the working partnership to explore the challenges faced by the patient in a place of non judgment, which enhances positive interactions between both parties. Evocation refers to the drawing out of intrinsic motivation from the patient, as MI assumes that the resources and motivation for change are held within the patient. Intrinsic motivation is developed and nurtured as the patient is not educated or provided with the motivation to change. The sense of autonomy allows the responsibility for change to be in the hands of the patient, it is not about the therapist coercing or telling the patient to make

change. The ultimate goal of this approach is to increase intrinsic motivation within the patient (Miller & Rollnick, 2002).

Working within these concepts Miller and Rollnick (2002) describe four guiding principles to be used with patients. Carl Rogers's (1957) work with empathetic client centered counselling style is the premise for the first guiding principle "Expressing Empathy". Reflective listening is the foundation of acceptance and understanding the patient's perspective. While the therapist does not agree or endorse the behaviours of the patient, it is possible to accept and understand without criticizing or blaming. Within this principle the therapist must expect the patient to express reluctance and ambivalence to change, while understanding that the accurate reflection of these statements can develop the therapeutic relationship and facilitate change.

The second guiding principle "developing discrepancy" is based upon the theory of Cognitive Dissonance (Festinger, 1957). Developing a discrepancy between the patient's current behaviour and their values and goals allows for the patient to present reasons for change. It is important that the patient present these reasons, as the presentation of his discrepancy can be a highly motivating factor. Although not described as a directive style of psychotherapy MI can be seen as directive in the sense that the resolution of ambivalence is the key.

The premise of "rolling with resistance" is that arguing for change with a patient is pointless as a patient who is ambivalent is unlikely to be persuaded. It is important to identify resistance presented by the patient and reframe the information to encourage the patient to develop a new momentum in discovering answers and solutions. Resistance should be used as a signal for the therapist to re-evaluate the patients stance and if they are being heard and validated within the therapeutic relationship.

The final guiding principle is to "support self efficacy", based upon the theory of self efficacy (Bandura, 1977). The belief the patient the ability to change is a key element in the

motivation to change. It is important that the patient is responsible for choosing and completing activities related to change, as ideas forced upon them are likely to lead to an increase in resistance and difficulties within the therapeutic relationship. The therapist's development of the patient's belief in the possibility for change is likely to have a greater lasting impact on behaviour change (Miller & Rollnick, 2002).

MI occurs in two phases, the first is based around building the intrinsic motivation for change and the second is strengthening the commitment to change (Miller & Rose, 2009). Miller and Rollnick (2002) liken the two phases to climbing a mountain. The basis of phase one is to develop intrinsic motivation for change and has been compared to climbing a steep mountain with reaching the top symbolizing the point in therapy when there is a shift from talking about reasons for change, to greater level of discussion around strategies for change. Ambivalence to change is consistently uncovered throughout the climb, and needs to be resolved intrinsically in the patient during the ascent. Being at the top of this change mountain and the ability to move beyond the peak depends on the level of importance for change, as well as a patient's confidence to make the change. MI evokes an increasing level of confidence and importance for change throughout the first phase. Ideally an individual will be at the peak of the mountain with high levels of both importance and confidence. Miller and Rollnick (2002) suggested that limited confidence as change approaches is like being at the top of the mountain without skis.

Developing an understanding of the patient's perceptions of how important change is, how confident and ready they are to change is an integral part of MI as it provides a guide for starting, with varying levels of these three concepts requiring differential input from the therapist. For example if a patient reported high levels of importance but low levels of confidence the therapist would work on supporting and evoking self efficacy within the patient. Patients who report low levels of readiness are not unable to change, but rather, the

level of readiness is indicative of other potential issues which need to occur prior to the target behaviour change. Recognizing a patients level of readiness is crucial to moving between phase 1 and phase 2 as it is not a permanent state that can be sustained for a long period of time (Miller & Rollnick, 2002b).

Strengthening commitment to change and developing a plan to achieve the change occurs in phase 2 . If reflecting on Miller and Rollnick's (2002) mountain analogy it is similar to skiing down the other side of the mountain avoiding trees and cliff faces. Ambivalence is likely to remain during phase 2 and needs to be clarified within the patient. The creation of a change plan needs to remain highly collaborative with an emphasis on personal responsibility, while evoking the patient's intrinsic commitment towards change.

Motivational Enhancement Therapy

MI is often combined with personal feedback of assessment results in relation to problem behaviours, a combination known as Motivation Enhancement Therapy (MET). MET combines structured assessment feedback in a collaborative manner, regarding problems associated with the target behaviour, the patient's level of severity on each behaviour compared with norms. All while evoking the patient's intrinsic motivation for change and future plans in an MI consistent style (Miller, Zweben, DiClemente, & Rychtrick, 1995; Project MATCH ResearchGroup, 1993).

Using Motivational Interviewing with Patients with Eating Disorders

The MI style of interaction is effective when working with those who are hostile to the idea of change, as it in essence by passes resistance (Miller & Rollnick, 2002). Research has demonstrated that a patient's motivation at the beginning of treatment is a significant predictor of change in eating pathology, though age, duration of illness, BMI, number of hospitalizations and binge/purge behaviour was not (Wade, et al., 2009).

The assumption of autonomy is a key guiding principle of MI, however presents some challenges when working with patients with AN. Autonomous decision making may be impacted bys due to age and impairments in physical, cognitive and emotional functioning as a result of starvation. There are strict limitations to individual's freedom and total autonomy about the choice to eat. Working with patients that require admission to an inpatient unit can be done in the spirit of MI through the slight adaptation of the boundaries of autonomy and a consistent empathetic and respectful stance (Wade et al. 2009). Geller (2002) reported that patients stated they did not have a problem with the implementation of the compulsory aspects of treatment, but did voice dislike at how these were implemented. The presentation of the compulsory components of treatment was more acceptable if the patient was provided with a good reason and if there were no surprises. Patients reported a greater level of acceptability if provided with choices ,even if none of the choices were attractive to the patient (for example voluntary versus certified admission) (Geller, 2002).

The use of empathy and reflective listening can be increasingly challenging when working with patients with eating disorders, particularly given the egosyntonic nature of symptoms. It is inconceivable to patients with AN that feelings of self confidence, respect and safety could be experienced without being thin, yet this is in essence what intervention for AN entails (Vitousek, et al., 1998). Two specific aspects of developing accurate empathy when working with patients with AN include expecting resistance and acknowledging the difficulty of change. Given that therapy in essence is attempting to fix a part of the patient's life they may not believe is broken, reframing resistance as a typical and understandable response contributed to a reduction of resistance and enhanced empathy (Vitousek, et al., 1998). It is reported that failing to accept that these clients want to be thin is the most common fundamental error clinicians make while working with those with this population (Vitousek, et al., 1998).

Evaluation of Motivational Interviewing and Motivational Enhancement Therapy

Multiple evaluations of the efficacy and effectiveness of MI have been completed since its development. To date there have been four published meta analyses that combine the quantitative results from multiple independent studies on MI to provide a single measure of effect size. An effect size (Cohen, 1988) refers to the magnitude of the effect or the strength of the intervention, for example an effect size of $d = 1.00$ would suggest a positive movement of a full standard deviation of clients in the treatment group relative to the comparison group, while an effect size of $d = 0.50$ would suggest movement of half a standard deviation. Effect sizes identified in meta analyses are considered to be small yet statistically different around the 0.20 range, while effect sizes of 0.50 and 0.80 are moderate and large respectively (Cohen, 1988).

A meta analysis of 30 controlled clinical trials that focused on the delivery of MI treatments for alcohol, drug use, diet and exercise found MI to be superior to non treatment control groups with effect sizes ranging from $d= 0.25$ to 0.57. MI effects were found to be sustained over varying follow up times, and higher doses of MI treatment and using MI prior to further treatment was associated with better outcomes in substance abuse studies (Burke, Arkowitz, & Menchola, 2003). A second meta analysis included 72 studies identified that MI as an independent treatment or as an additive to another treatment demonstrated effect sizes ranging between $d= 0.11$ and 0.80. The only significant predictors of effect size for MI were; manualised interventions yielded weaker effects and the benefits of MI decreased as time from follow up increased. A third meta analysis focused solely on 15 studies that used MI to target excessive alcohol consumption. When compared to no treatment control groups $d = 0.18$ and when compared to other treatments it was $d =0.43$ (Vasilaki, Hosier, & Cox, 2006).

The most recent meta analysis compared 119 MI studies identified that Motivational Enhancement Therapy (MET) was significantly more likely to produce positive change compared to typical MI, and that although very few studies utilized a group format the

researchers suggest that MI delivered in a group may dilute the effects compared to MI when delivered individually (Lundahl, Kunz, Brownell, Tollefson, & Burke, 2010).

Evaluation of Motivational Interviewing and Motivational Enhancement Therapy within Eating Disorders

A qualitative analysis of 48 patients' reports of improvement and treatment recovery from an eating disorder (Pettersen & Rosenvinge, 2002) suggested that a patients perception of therapy as positive was strongly associated with experiencing a therapeutic relationship which emphasized support, empathy, respect, understanding and seeing the individual behind the symptoms.

MET has shown positive results within the eating disordered population with four sessions of MET being as effective in the short term as CBT in reducing symptoms of binge eating, vomiting and laxative abuse (Treasure, et al., 1999). Notably patients who began treatment in the action stage of change showed the greatest improvement. However, stage of change at pre-treatment did not predict drop out and MET did not lead to a higher retention rate, nor did it alter a greater number of patients into the action stage. (Treasure, et al., 1999) Studies have shown MET was superior to self help in enhancing readiness to change binge eating. Individuals who participated in MET experienced significant reduction in bingeing, compensatory behaviours and maladaptive attitudes. Individuals in the MET group had higher rates of abstinence from bingeing (24%) compared to 9% in self help group (Dunn, Neighbors, & Larimer, 2006). MET has shown an increase in motivation to change and self esteem in addition to a decrease in depressive symptoms (Feld, et al., 2001).

Enhancing Motivation within a Group Setting

Understanding how MI can be effectively be utilized within a group setting is still currently being explored, with few studies currently published. A pilot study of MI intervention group for dually diagnosed patients hypothesized that group MI would be an

appropriate “fit” in an acute inpatient ward, particularly when stays may be short and patients are active in their own aftercare upon discharge. High levels of engagement were observed and it was noted that the focus of initiating behaviour change was beneficial to the group (Van Horn, 2001).

A recent paper that reported the development of group MI for at risk adolescents (D'Amico, Osilla, & Hunter, 2010) made reference to the work of Feldstein Ewing and colleagues (in press) with regards to two important considerations that differentiate individual MI from Group MI. Firstly the role of the interpersonal dynamics of the group and the requirement for the therapist to monitor between group conversations, group cohesion and peer influence. Secondly the difficulty dealing with the different experiences and potential needs of the members of the group; ie different substance use experiences that require a simultaneous response to individual needs, ie rolling with resistance of one youth while trying to maintain commitment language of another. In an inpatient eating disordered population MET increased motivation levels and treatment participation after discharge (Dean, Touyz, Rieger, & Thornton, 2008). The treatment as usual condition was found to contribute to a reduction in patient readiness to change, and less than half of this group engaged with further treatment on discharge. Anecdotal evidence from staff members working with both groups reported that patient who attended MET had a better understanding of their disorder and were more engaged in discussions about change (Dean, et al., 2008).

Introduction to the South Island Eating Disorder Service

The South Island Eating Disorder Service (SIEDS) is one of three specialty regional eating disorder services in New Zealand. The SIEDS is a specialist psychiatric service within the Canterbury District Health Board (CDHB) that is made up of a seven bed inpatient unit and an outpatient service. Individuals are referred to the service by General Medical Practitioners, Mental Health Services within the CDHB, or other South Island District Health

Boards for specialized inpatient support for patients with eating disorders. The multidisciplinary staff is comprised of Clinical Psychologist, Social Workers, Family Therapists, Psychiatrists, Nurses, Occupational Therapists, Dieticians, a Pediatrician and a General Medical Physician. The service utilizes multiple treatment modalities typically, Maudsley Family Based treatment for patients under the age of 18 and Cognitive Behavioural Therapy (CBT) for patients over the age of 18. The inpatient unit employs a lenient behavioral programme that provides individualized care to assist with weight gain, while emphasizing patient choices and limiting negative reinforcement.

The increasing number of patients waiting for individual treatment at the SIEDS resulted in the development of a Motivation and Education Group intervention. The intervention was aimed at supporting the management of the waiting list as it operated as a triage process, with patients who completed the group treatment progressing into individual treatment. This intervention ran from January 2006 until August 2009. From September 2009 the group treatment was altered to become less focused on providing education more focused on enhancing motivation. The SIEDS requested an audit of the two group pre-treatment interventions to assist with the development of future services provided. The purpose of the current research is to evaluate the delivery and outcomes of these two group interventions run by the SIEDS. The outcomes of both group treatments will be presented along with recommendations and considerations for further exploration.

Method

Participants

Patients. Patients were referred to one of two Motivational Groups (the Motivation and Education Group or Motivation Group) as part of their treatment. Participants were not randomly assigned to a group, but were offered a place dependant on when they were referred

to the SIEDS. Patients were offered a place within The Education and Motivation group (M+E Group) from January 2006 until August 2009 and the Motivation Group (M Group) from September 2009 until December 2011. There were a total of 8 males referred to the group treatments as part of their course of treatment. The male participants were included within the analysis as the current study is an audit of both group interventions which was part of their treatment programme as determined by SIEDS. Nine individuals were excluded from the study as they attended sessions from both group treatments. All data was collected retrospectively from physical and electronic mental health files.

Staff. Three staff members employed by the SIEDS who facilitated the current M Group sessions agreed to participate in the current evaluation. They completed a group interview and individual questionnaire. Two of the three staff members were trained Clinical Psychologists, the third a trained Occupational Therapist. The three staff members had received basic training in MI as part of their professional qualification.

Procedure

Patients. Patients were identified by the researcher through four sequential methods;

1) An attendance list of patients from the various group sessions held by the secretary of the SIEDS.

2) Identifying individuals from a collection of completed questionnaires from various group sessions. Data entry identified discrepancies between the attendance lists provided and names on the completed the measures, therefore;

3) A search of the CDHB computer system (SAP; Systems, Applications and Products in Data Processing) for all patients who had contact with SIEDS from January 2006 until December 2011 to identify potential patients who were referred to either group treatment.

Individuals were identified by collating all progress notes completed by any member of staff with a subject line title of one of the following; group, motivation group, outpatient group, motivation and education group, ME group, and OT group. Potential patients' medical records were checked to ensure they had been offered a place for either M+E Group or the M Group.

4) Finally potential patients were identified by searching the CDHB SAP computer system to identify outgoing correspondence from the SIEDS to any patient. The search included all outward going correspondence from any SIEDS staff during this aforementioned time frame. The search was narrowed by identifying subject lines that included either; "Letter re Motivation and Education group", "Letter re Motivation group", or "Letter re group".

Data collection occurred at three time points; assessment (once a patient was referred to, and accepted by the SIEDS for treatment), pre treatment (prior to starting either of the group interventions) and post treatment (upon completion of the group). An outline of measures collected at these three time points is presented below in Table 5.

Table 5

Time Frame for Measures Collected for both Group Treatments.

Measure	Assessment	Pre Treatment	Post Treatment
EDEQ-4	*	*	*
BDI	*	*	*
DFLEX	*		
MSOC	*	*	*
CC		*	*

Patient's treatment was provided from within the outpatient or the inpatient services as part of the SIEDS. On several occasions patients who attended a motivational group

treatment transitioned between these two service delivery models. For demographic data collection purposes these individuals were identified as “both” inpatient and outpatient.

The Eating Disorder diagnosis that was identified during the assessment prior to group attendance was collected for demographic analysis. Patients were given a “deferred diagnosis” if they presented with particularly complex symptoms or staff had difficulty obtaining information at the time of assessment. As the purpose of this research is to evaluate the implementation and outcomes of the motivational group treatment programs implemented by the SIEDS, and these individuals were referred by staff within the service to the motivational groups as part of their treatment, patients who initially received a deferred diagnosis were included in the final statistical analysis. All patients who received a deferred diagnosis were diagnosed with an Eating Disorder during their time at the SIEDS.

Data on comorbidity was collected based on a current diagnosis of any psychiatric disorder as classified in the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition – Text Revision (American Psychiatric Association, 2000). The numbers of patients with comorbid psychiatric conditions were recorded based upon the diagnosis of any mood disorder, any anxiety disorder, any substance abuse or dependency, or any personality disorder. Patients who presented with a co morbid diagnosis or ADHD, Trichotillomania, Body Dismorphic Disorder and Psychosis were identified and represented within the “other” comorbid diagnosis category.

Staff. The clinical manager of the SIEDS invited the researcher to speak to the current staff involved with the current M Group. A 90 minute discussion was held with all three staff members and the guest speaker who attended the third group session. Staff members were asked to discuss some of the challenges and successes experienced in the current group

intervention. Staff members were later invited to complete a questionnaire (Appendix A) anonymously and return to the researcher.

Interventions

Both group treatments consisted of four 90 minute sessions, run by two group facilitators spread over 4 consecutive weeks. A number of activities utilized in the M+E Group were introduced as optional homework activities in the development of the M Group, which patients could chose to complete if they desired. The content of each session for both interventions is presented in Table 6. As the motivational components were not the same key features that differ between groups are indicated in bold type font. Patients who attended the M+E Group were provided with a workbook which they were to complete during each session and for homework activities.

Table 6.

Comparison of Session Content for Both Group Interventions

Session	Motivation and Education Group	Motivation Group
1	- Completion of questionnaires - Introductions - Group Overview - Group Guidelines - ***Goal Setting*** - ***Eating Disorder Diagnoses*** - ***Prevalence and Other Information*** - Stages of Change - ***Starvation Study*** - ***Set Point Theory***	- Completion of questionnaires - Welcome and Introductions - Group Overview - Group Guidelines - ***Warm up activity*** - ***Continuum Exercise*** - Stages of Change - Decision Balance - Pros and Cons of a Eating Disorder ***Optional homework*** - Letter to Eating disorder as a friend - Decision Balance worksheet
2	- ***Questions and Comments*** - ***Risk Factors and Precipitants*** - ***Maintaining Factors and Consequences*** - ***Strengths***	- ***Warm up*** - Review of homework, group to write letter to ED as a friend and then as an enemy - ***Value Card Sought*** - ***Maslow's Hierarchy of Needs*** - ***Questions for guest speaker*** ***Optional homework*** - Values and Goals work sheet - Readings relevant to Starvation and Set Point Theory.
3	- Questions and Comments - ***Functions of an Eating Disorder*** - Decisional Balance - ***Self Monitoring***	- ***Questions for Guest Speaker*** - ***Post cards – write something you found inspiring on a post card to be sent to you in 1 month.*** - ***Future Lives Discussion*** ***Optional Homework*** - Writing a letter to self from self in five years time with and without an eating disorder - Readings based on Aetiology and Self Evaluation
4	- Questions and comments - ***Review of self monitoring*** - Letter to Eating disorder as a friend and enemy - ***Review of Goals*** - Completion of Questionnaires - Statement of Intent	- Review - ***Recovery Maze*** - ***Continuum Exercises*** - Statement of Intent - Questionnaires - Closure of group

Session one of the M+E Group focused on psychoeducation about eating disorders, the role of nutritional intake, and the creation of patients goals. The initial information presented

to the M+E Group was still available to M Group patients if they wanted to collect readings at the end of the session, however this was optional. The addition of warm up activities to M Group sessions as designed to facilitate increased group interaction, while the inclusion of the continuum activities (for importance, confidence and readiness to change) allowed for greater investigation of ambivalence and developing discrepancy, while eliciting change talk and enhancing self efficacy.

Session two of the M+E Group worked on developing a formulation of an Eating Disorder while the second session of the M Group intervention focused developing discrepancy between current behaviours and how it undermined important values or goals identified by the patient. The impact of removing food as a basic need according to Maslow's hierarchy of needs (Maslow, 1943) was discussed in this session.

The third session in the M+E Group focused on developing patient's understanding of the functions of an Eating Disorder, as well as identifying the pros and cons of an eating disorder. Self Monitoring of behaviour was discussed and patients were encouraged to do this between sessions. The third session of the M Group included a guest speaker who had recovered from an eating disorder. This was formatted as a questions and answers session to enhance patients hope for change. Further activities provided patients with opportunities to build self efficacy and develop discrepancy between the current eating disorder and recovery.

The final session within the M+E Group reviewed the process of self monitoring, and discussed both current and ideal self evaluation standards. Patients were asked to write a letter to their Eating Disorder as a friend and as an enemy, in addition to a letter to their future selves in ten years time with and without an Eating Disorder. Patients were asked to review and discuss the goals created at the beginning of the group. Finally a statement of intent; specifically what they planned to do now in terms of their eating disorder was

recorded in the workbook. In contrast the final session of the M Group aimed to build self efficacy, by discussing potential "roadblocks" to recovery and how to problem solve these difficulties when they arise. Finally an assessment of patient's motivation and commitment to change was collected.

Measures

Eating Disorder Examination Self Report Questionnaire - 4th Edition (EDE-Q4) (Fairburn & Bèglin, 1994). The EDEQ-4 (Appendix B) is a 36 item self report questionnaire that requires the patient to reflect on the past 28 days. Items addressing eating disordered attitudes are scored using a 7-point Likert scale. Subscale scores for dietary restraint, eating concern, weight concerns, and shape concerns are reported in addition to a global score. Frequencies of key behaviours are also assessed in terms of the number of episodes of behaviour during the past 4 weeks. Studies of the validity of the EDE-Q have demonstrated a high level of agreement between the EDE-Q and Eating Disorder Examination Interview (EDE) in assessing the core attitudinal features of eating disorder psychopathology in the general population (Fairburn & Bèglin, 1994; Mond, Hay, Rodgers, Owen, & Beumont, 2004). Acceptable internal consistency and test–retest reliability have also been demonstrated (Luce & Crowther, 1999).

Beck Depression Inventory 2nd edition (BDI-II) (Beck, Steer, & Brown, 1996). The BDI-II is a 21 item self report of the severity of depressive symptoms in adolescents and adults. Each symptom is rated on a 4-point scale ranging from 0 to 3 with total scores that range from 0 to 63, with higher scores indicating greater levels of depressive symptoms. Four qualitative categories are used to describe the level of symptom severity; 0-13 minimal depression; 14-19 mild depression; 20-28 moderate depression and 29-63 severe depression. The BDI-II was found to have sound psychometric properties with high internal consistency

and moderate to high convergent validities with other self-report and clinical rating scales of depression in psychiatric patients, college students, and normal adults (Beck, et al., 1996; Dozois, Dobson, & Ahnberg, 1998; Rush, First, & Blacker, 2008).

Detail and Flexibility Questionnaire (DFlex) (Roberts, et al., 2011). The Detail and Flexibility Questionnaire (DFlex) (Appendix C) is a 24-item questionnaire designed to assess levels of cognitive rigidity and attention to detail in the eating disordered population. Each response is measured on a 6-point Likert scale. A greater score implies a higher level of rigidity and attention to detail. A recent study demonstrated high levels of internal reliability of the DFlex total scale and subscale scores, demonstrating patients with a lifelong eating disorder diagnosis having significantly poorer levels of set shifting and heightened levels of attention to detail. Both subscales demonstrated discriminate validity between lifetime eating disorder and controls, and between current and recovered anorexia nervosa patients. However researchers suggest that as the exploration of set shifting and central coherence in those with eating disorders is in its initial stages, full scale scores should be interpreted with care (Roberts, et al., 2011).

Motivational Stages of Change (MSOC). A brief questionnaire (Appendix D) designed by a staff member of the SIEDS was created to record the patients current stage of change based upon the five stages of change; pre-contemplation, contemplation, preparation, action, maintenance (Prochaska & Norcross, 2001). Each stage of change as recorded on the MSOC was numbered from 1 (Pre-contemplation) to 5 (Maintenance). A MSOC score was created by converting the stage of change identified to a score from 1 – 5, (including 0.5 graduations for individuals who identified a point between two stages of change). The comparison between pre and post group treatment scores was identified by creating a change score. The

pretreatment score was subtracted from the post treatment score leaving a final change score. A positive change score indicated the patient progressed towards taking action (e.g. moving from preparation to action). A negative change score indicated the patient regressed from a more advanced stage of change to an earlier stage (e.g. moving from the action back to preparation).

Change Continuum (CC). A staff member at the SIEDS created a Change Continuum rating on a Likert Scale from 0 to 10 (Appendix E). Patients were asked to complete this at the end of sessions 1 and 4. This measure was introduced for the last M+E Group and for each subsequent M Group. Patients were asked to rate their answers to three questions; "how important it is to change", "how confident are you that you can change" and "how ready are you to change" by placing a rating on a 11 point Likert scale. 0 indicating it was not important/confident/ready and 10 indicating extremely important/confident/ready. As with the MSOC patients who identified mid way points were given the median of the two points identified. A change score was created in a similar fashion, with the pre treatment score subtracted from the post treatment score. A positive final change score indicated movement to becoming increasingly important/confident/ready while a negative score indicated less importance/confidence/readiness.

Design

The analytical approach adopted by the current evaluation focused on findings at four time points; between groups at the time of referral, between those who did and did not attend treatment; between groups prior to treatment and between and within groups after treatment. An analysis of pre and post treatment findings was completed using a combination of data collected at assessment and prior to starting the group treatment. Pretreatment data was used

where available; however if missing it was substituted for assessment data. This occurred as there were large amounts of missing data and variability between time of assessment and the start of group treatment. Statistically analyses include descriptive and inferential statistics computed in SPSS 19 (Statistical Package for Social Sciences; IBM). The staff evaluation questionnaire, along with verbal feedback from staff will be reported in the discussion. Between groups analysis could not be completed due to small numbers of patients who completed the EDEQ-4 in the M Group, and the small number of patients who complete the Dflex and Change Continuums in the M+E Group.

Results

Between Group Differences at Referral

No significant differences were identified between groups for age with the M+E Group *M*= 24.6 (*SD* =9.03) compared to M Group mean age of *M*=25.6 (*SD*= 8.6) with exact *p*=.357. Patients ranged in age from 12 to 53 years in the M+E Group and from 11 to 62 years in the M Group. With regards to attendance, no significant differences were identified between groups based on the mean number of sessions attended with the M+E Group *M*= 2.18 (*SD* =1.59) compared to M Group mean age of *M*=2.45 (*SD*= 1.64) with exact *p*=.191.

Significant differences were found between groups based on patient's ethnicity, patient status and attendance. A greater number of New Zealand European patients were referred to the M Group, a greater number of outpatients were referred to the M+E Group (Table 7).

Table 7

Patient Characteristics

Characteristic		M+E Group (*n*=145)		M Group (*n*=107)		
		n	%	*n*	%	X^2 (1, 252)
Gender	Female	142	97.9	102	93.5	.244
	Male	3	2.1	5	4.7	.244
Ethnicity	NZ European	95	65.5	82	76.6	**.044**
	European	30	20.7	16	15	.244
	Maori	8	5.5	4	3.7	.512
	Asian	9	6.2	3	2.8	.210
	Pacific Islander	2	1.4	0	0	.223
	South American	0	0	1	0.9	.243
	Middle Eastern	1	0.7	1	0.9	.829
Patient Status	Outpatient	130	89.7	84	78.5	**.014**
	Inpatient	12	8.3	19	17.8	**.024**
	Both	3	2.1	4	3.7	.425

No significant findings were found between groups based on a patient's eating disorder diagnosis (Table 8), BMI or length of eating disorder history (Table 9). There was considerable variability in the length of eating disorder symptoms experienced in both groups, ranging from 4 to 480 months for the M+E Group with a mean of 94.41 (*SD*= 98.51) and between 4 and 600 months for those referred to the M Group intervention (*M* = 101 months, *SD*= 98.41).

Table 8

Number of Patients According to Diagnosis

Diagnosis	M+E Group		M Group		
	n	%	*n*	%	$X^2(1,252)$
Anorexia Nervosa	54	37.2	49	45.8	.140
Bulimia Nervosa	34	23.4	21	19.6	.468
Eating Disorder Not Otherwise Specified	53	36.6	36	33.6	.633
Diagnosis Deferred	4	2.8	1	0.9	.305

Table 9

BMI according to Eating Disorder Diagnosis for both Groups

Diagnosis	M+E Group			M Group			
	M	*(SD)*	Range	*M*	*(SD)*	Range	*p*
Anorexia Nervosa	16.51	(2.05)	12.2 - 20.9	15.95	(2.06)	11 - 23	.118
Bulimia Nervosa	23.67	(4.56)	17.3 - 41.4	23.46	(3.60)	18.7 - 34.5	.860
EDNOS	22.32	(7.29)	13.98 - 56	21.18	(4.25)	17.8 - 41.3	.411
Diagnosis Deferred	17.53	(2.76)	15.6 - 20.7	21.7	-	-	-

A Pearson's chi-square test identified statistically significant differences in the number of patients in the M+E Group that were diagnosed with a mood disorder: X^2 (1, N = 252) = 6.99, $p < .008$, and anxiety disorder: X^2 (1, N = 252) = 5.62, $p < .018$. No significant differences between groups were identified for the number of patients with a comorbid diagnosis of substance abuse or dependency (Table 10).

Table 10

Between Group Comparison of Comorbid Diagnoses

Diagnosis	M+E Group		M Group		
	n	%	*n*	%	$X^2(1,252)$
Any Mood Disorder	73	50.3	36	33.6	**.008**
Any Anxiety Disorder	48	33.1	21	19.6	**.018**
Any Substance Abuse / Dependency	23	15.9	14	13.1	.538
Any Personality Disorder	12	8.3	4	3.7	.144
Any Other [a]	6	4.1	4	3.7	.872

a = Other diagnostic category consisted patients who had comorbid diagnoses of ADHD, Trichotillomania, Body Dimorphic Disorder or Psychosis.

Attendance versus non attendance to treatment

Demographics. The number of patients who did or did not attend treatment did not differ according to eating disorder diagnosis as approximately 20% of patients of each diagnostic classification did not attending any treatment sessions (Table 11). The number of patients who attended treatment varied according to ethnicity. Notably 33.3% of Maori patients did not attend group treatment and only 16.7% completed all four sessions compared to 33.5% of New Zealand European and 50% of Asian patients. Results from other minority groups are difficult to report due to low numbers (Table 12).

Table 11

Number of Sessions Attended According to Eating Disorder Diagnoses

Diagnosis	Number of sessions attended										Total
	0		1		2		3		4		
	n	%	*n*	%	*n*	%	*n*	%	*n*	%	
AN	23	22.3	19	18.5	10	9.7	11	10.7	40	39.2	103
BN	12	21.8	8	14.5	3	5.5	16	29.1	16	29.1	55
EDNOS	23	25.8	9	10.1	7	7.9	18	20.2	32	36	89
Deferred	0	0	3	60	0	0	0	0	2	40	5

Table 12

Number of Sessions Attended According to Ethnicity

Ethnicity	Number of sessions attended										Total
	0		1		2		3		4		
	n	%	*n*	%	*n*	%	*n*	%	*n*	%	
NZ European	44	25	27	15.3	17	9.7	29	16.5	59	33.5	176
European	7	15.2	8	17.4	1	2.2	10	21.7	20	43.5	46
Maori	4	33.3	1	8.3	1	8.3	4	33.3	2	16.7	12
Asian	1	8.3	3	25	1	8.3	1	8.3	6	50	12
Pacific Islander	1	50	0	0	0	0	0	0	1	50	2
South American	0	0	0	0	0	0	0	0	1	100	1
Middle Eastern	0	0	0	0	0	0	1	50	1	50	2

Beck Depression Inventory (Second Edition) and Detail and Flexibility Questionnaire.

Depressive symptoms, cognitive rigidity and attention to detail were not found to be significantly different between patients who did and did not attend treatment. The mean BDI-II scores of patients who did not attend was *M*= 29.54 (*SD* =12.77) compared to attendees mean of *M*=27.67 (*SD*= 13.341) with *p*=.396. Although no significant differences were identified on Dflex scores (Table 13), consistently greater standard deviations (and therefore variability) in all three scores for patients who attended treatment groups at least one treatment session.

Table 13

A Comparison of DFLEX Scores for Patients who Did and Did Not Attend Intervention

Subscale	Did not attend (n= 17)		Attended 1+ (n= 76)		
	M	*(SD)*	*M*	*(SD)*	*p*
Cognitive Rigidity	47	(4.47)	46.34	(12.12)	.827
Detail Focus	41.59	(5.59)	41.49	(10.60)	.970
Total	88.59	(8.73)	87.83	(20.61)	.882

Eating Disorder Examination Questionnaire (Fourth Edition). The Eating Concerns and Shape Concerns subscales of the EDEQ-4 were found to be significantly larger, indicating a greater level of impairment in patients who did not attend treatment (Table 14). The frequency of weight control behaviours or the number of patients who engaged in these behaviours as reported in the EDEQ-4 did not differ significantly between patients who did and did not attend treatment. The number patients who engaged in subjective binges approached statistical significance, with a larger percentage of patients who did not attend treatment reporting subjective binges. The frequency of these behaviours presented in Table 15 presented the total number of participants in the group as *N* while the number who engaged in the specific behaviour during the previous 28 days are identified as *n*.

Table 14

EDEQ-4 Scores for Patients who Did and Did Not Attend Group Treatment

Subscale	Did not attend			Attended 1+			
	n	*M*	*(SD)*	*n*	*M*	*(SD)*	*p*
Restraint	48	3.97	(1.80)	170	3.87	(1.75)	.720
Eating Concerns	46	3.97	(1.51)	158	3.43	(1.60)	**.041**
Shape Concerns	47	4.97	(1.20)	169	4.42	(1.60)	**.031**
Weight Concerns	48	4.44	(1.34)	169	4.13	(1.64)	.237
Global Score	49	4.30	(1.31)	172	3.96	(1.45)	.145

Table 15

Frequency of Weight Control Behaviours According to Treatment Attendance

Subscale	Did Not Attend					Attended 1 more session						
	N	*n*	*%*	*M*	*(SD)*	*N*	*n*	*%*	*M*	*(SD)*	*p*	X^2
Objective Binge	49	30	61.2	13.57	20.90	172	107	62.2	13.24	14.31	.921	.842
Subjective Binge	49	39	79.6	16.42	16.40	171	110	64.3	12.79	15.41	.223	.052
Vomiting	49	33	67.3	26.16	29.53	172	105	61.0	22.72	27.41	.548	.216
Laxative	48	12	25	6	4.73	172	49	28.5	15.76	24.41	.243	.795
Diuretic	48	3	6.3	12	13.89	172	5	2.9	6	5.66	.616	.274
Exercise	49	31	63.3	13.40	11.13	172	97	56.4	13.63	11.62	.925	.582

Motivational Stage of Change. No significant findings as reported on the motivational stage of change questionniare were identified based on treatment attendance. Non attendees reported a mean Motivational Stage of Change of 2.85 (*SD*= 0.74) compared to patients who attended at least one session *M*= 3.05 (*SD* = 1.03) (*t* = .999, df = 25.33, *p* =.327).

Pre Treatment Comparison

Beck Depression Inventory (Second Edition) Eating Disorder Examination Questionnaire (Fourth Edition). No significant findings on BDI-II scores were identified between groups prior to treatment (*t* = 1.907, df = 165, *p* =.058) although significant differences on all five subscales of the EDEQ-4 were identified between the two groups. The M+E Group had consistently greater means while the M Group had consistently greater variability among patients as presented in Table 16.

Table 16

A Group Comparison of EDEQ-4 Subscale Scores Prior to Starting Treatment

Subscale	M+E Group			M Group			
	n	*M*	*(SD)*	*n*	*M*	*(SD)*	*p*
Restraint	96	4.19	(1.55)	74	3.45	(1.92)	**.008**
Eating Concerns	88	3.74	(1.44)	70	3.04	(1.72)	**.007**
Shape Concerns	95	4.77	(1.48)	74	3.97	(1.66)	**.001**
Weight Concerns	97	4.54	(1.52)	72	3.59	(1.65)	**<.001**
Global Score	98	4.28	(1.29)	74	3.54	(1.54)	**.001**

No significant differences were identified in number of patients who engaged in weight control behaviours or the mean number of behaviours between groups (Table 17).

Table 17

A Group Comparison of Weight Control Behaviours Prior to Starting Treatment

Subscale	M+E Group					M Group						
	N	*n*	*%*	*M*	*(SD)*	*N*	*n*	*%*	*M*	*(SD)*	*p*	X^2
Objective Binge	98	62	63.3	13.16	(13.82)	74	46	62.2	14.03	(16.01)	.800	.882
Subjective Binge	98	67	68.4	11.62	(15.72)	73	44	60.3	12.98	(15.0)	.660	.273
Vomiting	99	62	62.3	22.52	(31.08)	74	42	56.8	23.88	(22.43)	.812	.492
Laxative	98	32	32.7	12.92	(13.29)	75	17	22.7	23.18	(40.35)	.256	.156
Diuretic	98	4	4.1	6	(3.56)	74	1	1.4	1	-	.602	.291
Exercise	98	60	61.2	12.18	(12.25)	74	37	50	15.88	(10.30)	.152	.073

Detail and Flexibility Questionnaire. No significant differences were identified between the two intervention groups on either subscale or the total score of the Dflex prior to treatment (Table 18).

Table 18

A Comparison of Dflex Scores Prior to Treatment

Subscale	M+E Group (*n*=6)		Motivation Group (*n*=70)		
	M	*(SD)*	*M*	*(SD)*	*p*
Cognitive Rigidity	51.33	(9.14)	45.91	(12.3)	.296
Detail Focus	45.67	(9.67)	41.13	(10.67)	.318
Total	97	(17.82)	87.04	(20.76)	.259

Motivational Stage of Change. Significant differences in the self reported motivational stage of change were found between groups prior to treatment. The M+E Group had a significantly greater number of patients who identified less motivated stages prior to treatment than the M Group. A Pearson's Chi-square significance test found $X^2(8, N = 155) = 16.191$, exact $p = .023$. The Motivational Stages of Change reported prior to treatment are presented in Table 19.

Table 19

Patients Motivational Stage of Change Prior to Treatment for Both Groups

	Motivational Stages of Change									
Treatment	1 Pre-contemplation	1.5	2 Contemplation	2.5	3 Preparation	3.5	4 Action	4.5	5 Maintenance	Total
M+E	8	2	22	2	19	4	18	0	3	78
M	5	0	7	1	23	5	32	1	3	77

Pre and Post Treatment Comparison

Attendance rates varied with a significantly larger proportion of patients in the M Group completed all four sessions (Table 20). Although a significant difference was not observed between treatment groups based on drop out during treatment X^2 (2, N= 252) = 5.265, exact p = .072 rates vary with 46.2% of patients who started the M+E Group dropping out before completing the treatment compared to 34.5% of M Group patients.

Table 20

Session Attendance for both Treatment Groups

No. of sessions	M+E Group (*n*=145)		M Group (*n*=107)		
	n	%	*n*	%	X^2 (1, 252)
0 sessions	34	23.4	23	21.5	.714
1 session	25	17.2	14	13.1	.367
2 sessions	11	7.6	9	8.4	.811
3 sessions	31	21.4	14	13.1	.089
4 sessions	44	30.3	47	43.9	**.027**

Beck Depression Inventory (Second Edition) Eating Disorder Examination Questionnaire (Fourth Edition) Between group significance testing was not able to be completed due to the small number of patients who completed EDEQ-4 and BDI-II

questionnaires in the M Group. As seen by the means provided, the BDI-II and all of the EDEQ-4 subscales (except the shape concerns) decreased for both groups post treatment.

A significant reduction in the BDI-II, Eating Concerns and the Global score from the EDEQ-4 were identified in the M+E Group post treatment, and a significant reduction on the Restraint Scale was identified for the M Group (Table 21). With respect to weight control behaviours (Table 22) a between group comparison could not be conducted due to limited numbers, although the data shows a greater percentage of patients reported objective binges in the M Group (64.3%) than in the M+E Group (53%). The number of patients who used laxatives post treatment varied between groups M+E Group (18.2%) was larger than the M Group (7.1%). Patients in the M+E Group reported a decrease in the mean number of objective binges while the M Group patients reported an increase. No significant between group findings were observed in eating disorder behaviour.

Table 21

Pre and Post treatment EDEQ-4 and BDI-II means for both Intervention Groups

	Motivation + Education Group						Motivation Group					
Scale		Pre		Post				Pre		Post		
EDEQ4	*n*	*M*	*(SD)*	*M*	*(SD)*	*p*	*n*	*M*	*(SD)*	*M*	*(SD)*	*p*
Restraint	64	3.86	(1.51)	3.76	(1.59)	.521	11	3.75	(2.07)	3.11	(1.94)	**.018**
Eating Concerns	57	3.68	(1.32)	3.29	(1.43)	**.011**	11	4.07	(1.63)	3.65	(1.30)	.092
Shape Concerns	62	4.79	(1.29)	4.57	(1.37)	**.**058	13	3.79	(1.65)	3.93	(1.84)	.582
Weight Concerns	63	4.33	(1.37)	4.10	(1.51)	.082	12	3.50	(1.95)	3.17	(1.98)	.349
Global Score	64	4.16	(1.09)	3.93	(1.24)	**.040**	12	3.72	(1.75)	3.57	(1.51)	.436
BDI-II	60	27.65	(13.55)	24.32	(13.61)	**.027**	17	20.24	(12.76)	19.76	(14.53)	.803

Table 22

Pre and Post treatment EDEQ-4 Disordered Eating Behaviour Frequency for both Intervention Groups

Behaviour	Motivation and Education Group											Motivation Group									
	Pre Treatment					Post Treatment						*Pre Treatment*					*Post Treatment*				
	N	*n*	*%*	*M*	*(SD)*	*N*	*n*	*%*	*M*	*(SD)*	*p*	*N*	*n*	*%*	*M*	*(SD)*	*N*	*n*	*%*	*M*	*(SD)*	*p*
Objective Binge	98	62	63.3	13.16	(13.82)	66	35	53.0	11.89	9.76	.922	74	46	62.2	14.03	(16.01)	14	9	64.3	13	10.44	.128
Subjective Binge	98	67	68.4	11.62	(15.72)	65	41	63.1	11.02	9.93	.958	73	44	60.3	12.98	(15.0)	13	8	61.5	11.88	8.49	.130
Vomiting	99	62	62.3	22.52	(31.08)	66	40	60.1	15.33	15.31	.190	74	42	56.8	23.88	(22.43)	14	8	57.1	21.13	12.93	.296
Laxative	98	32	32.7	12.92	(13.29)	66	12	18.2	8.25	10.15	.681	75	17	22.7	23.18	(40.35)	14	1	7.1	20	-	-
Diuretic	98	4	4.1	6	(3.56)	66	2	3.0	1.50	.71	-	74	1	1.4	1	-	14	0	0	-	-	-
Exercise	98	60	61.2	12.18	(12.25)	66	30	45.5	13	8.60	.343	74	37	50	15.88	(10.30)	14	5	35.7	12.40	9.07	.483

Motivational Stage of Change. Significant differences were identified within both treatment groups post treatment, M+E Group (t = -4.282, df = 53, p =<.001) and with M Group (t = -3.830, df = 45, p =<.001), though no significant differences between groups were found on the self reported motivational stage of change $X^2(8, N = 99) = 9.742$, exact p = .284. Over half of the patients in both treatment groups reported an increase in their motivational stage of change, with 37% of both groups identifying no change (Table 23).

Table 23

Final Change Scores for the Motivational Stage of Change Questionnaire

Direction of Final Change Score	M+E Group	M Group
Negative	5 (9.3%)	4 (8.9%)
No Change	20 (37%)	17 (37.8%)
Positive	29 (53.7%)	24 (53.3%)

Although not significant, Table 24 shows that there are a greater number of patients in earlier stages of change in the M+E Group, with 25 percent of patients who were resistant or ambivalent to change in the M+E Group, compared to 11 percent of the M Group. After treatment 64 percent of patients in the M Group had taken definite actions against their eating disorder, compared to 44 percent of the M +E Group.

Table 24

Final Motivational Stages of Change

	Motivational Stages of Change									
Group	1 Pre-contemplation	1.5	2 Contemplation	2.5	3 Preparation	3.5	4 Action	4.5	5 Maintenance	Total
M+E	2	0	9	3	13	3	18	0	6	54
M	0	0	2	3	9	2	21	4	4	45

Change Continuums. Significant differences between pre and post treatment scores on all three self rated change continuums was found for M Group patients only (Table 25).

Table 25

Change continuum scores before and after treatment

	Motivation + Education Group						Motivation Group					
Continuum	Pre			Post			Pre			Post		
	n	*M*	*(SD)*	*M*	*(SD)*	*p*	*n*	*M*	*(SD)*	*M*	*(SD)*	*p*
Importance	5	6.6	(2.30)	7.1	(2.67)	.291	39	7.62	(1.76)	8.45	(1.60)	**<.001**
Confidence	4	3.38	(1.49)	5.75	(0.96)	.073	40	5.60	(2.33)	6.82	(2.27)	**<.001**
Readiness	4	5.38	(2.14)	6.75	(1.26)	.144	37	6.66	(2.50)	7.87	(1.77)	**<.001**

A between group analysis could not be completed due to the small number of M+E Group patients who completed the Change Continuum questionnaires. The final change scores for all three continuums are presented in Table 26. Over half of the population of the M Group reported increases on all three continuums.

Table 26

*Direction of change as calculated for final change scores for the Change Continuum Scale*s

Continuum	Motivation and Education Group			Motivation Group		
	Negative	No Change	Positive	Negative	No Change	Positive
Importance	0	1 (14.3%)	6 (85.7%)	3 (8.1%)	14 (37.8%)	20 (54.1%)
Readiness	0	2 (50%)	2 (50%)	5 (13.5%)	11 (29.7%)	21 (56.8%)
Confidence	0	1 (25%)	3 (75%)	7 (17.5%)	10 (25%)	23 (57.5%)

The final Likert rating scores for all three change continuums are presented in Table 27. Closer observation of the Likert scores shows variability in the spread of scores on all

three continuums for the M Group, with approximately 25 percent of patients reporting ratings of a 9 or a 10.

Table 27

Likert rating scores after treatment for the three Change Continuums

Continuum		Likert Scale											
		0	1	2	3	4	5	6	7	8	9	10	Total
Importance	M+E	0	0	0	0	0	0	1	1	1	0	4	7
	M	0	0	0	1	0	3	2	9	9	8	12	44
Confidence	M+E	0	0	0	0	0	2	1	1	0	0	0	4
	M	0	1	0	2	5	6	8	6	5	8	5	46
Readiness	M+E	1	0	0	0	0	1	0	2	1	0	0	5
	M	0	0	0	1	1	2	7	8	8	9	9	45

Discussion

The aim of the current study was to evaluate the effectiveness and delivery of the two motivational pre treatment groups run by the SIEDS. Results from studies that used individualized treatment will be discussed alongside current the outcomes as there is very limited research on group treatments designed to enhance motivation within the eating disorder population. The M Group in the current study was designed based upon the two group treatments published by Feld et al. (2001) and Dean et al. (2008). These group treatments utilize similar activities and were intended to elicit intrinsic motivation through a client centered discussion of resistance and or ambivalence to change. Key findings from the current evaluation will be presented for psychopathology and motivational outcomes, followed by limitations and future recommendations.

Eating Disordered Attitudes, Beliefs and Behaviours

Although significant results were found on eating concerns and global scales for the M+E Group and on and the restraint subscale for the M Group, direct comparison to other studies is at times, challenging due to considerable variation in study design and measured

used to report treatment outcomes. The evaluation of the pilot MET group conducted by Feld (2001) reported no significant changes on the EDEQ subscales, nor did five randomly control trails that used variations of motivational interviewing / MET within the eating disordered population. In a study that compared individual MET to CBT revealed a significant reduction of binge eating, vomiting and laxative abuse yet no significant differences between treatment modalities (Treasure et al., 1999). Two studies have demonstrated successful reductions in binge eating albeit within community populations. Cassin et al. (2008) reported that patients with BED experienced a significant reduction in frequency of binge eating in both cohorts; the self help treatment and the treatment that used self help plus one session of adapted motivational interviewing. Within this study the motivation cohort significantly reduced the frequency of binge eating to a greater extent than the control group at 4 weeks, 8 weeks and 16 weeks follow up. Dunn et al. (2006) found that one MET session combined with a self help manual led to a significantly greater reduction in bingeing, compensatory behaviours, and maladaptive attitudes with patients with BN or BED. Significant reductions in eating attitudes and behaviours were reported in pre – post scores (although on an alternative measure of eating disorder pathology was used (The Eating Disorder Inventory 2nd edition (Garner, Olmstead, & Polivy, 1983)) in addition to weight gain in patients with AN as a result of a motivational assessment prior to treatment (Gowers & Smyth, 2004).

Depression

It could be suggested that the significant reduction in depressive symptoms post treatment that was only observed the M+E Group was due to the group format or content. The reporting of depressive symptoms is often presented in the literature as a secondary effect of motivational treatments, with other studies providing varied results with regards to improvements in depressive symptoms. Significant improvements have been observed post motivational treatments compared to a control sample (Cassin, Von Ranson, Heng, Brar, &

Wojtowicz, 2008), and a after group MET treatment (Feld, et al., 2001) while a further study did not identify significant differences depressive symptoms between a cohort who received motivational treatment and control population (Dean, Touyz, Rieger, & Thornton, 2007).

Motivation

With regards to motivational stage of change as measured by the MSOC questionnaire both groups reported significant improvements post treatment. What is noticeable despite the similarities between the groups, yet lack of statistical significance, is the greater number of patients who reported remaining in the earlier stages of change (precontemplation and contemplation) in the M+E Group compared to the M Group. It is possible that the similarities between the two groups could also be accounted for by the limited reliability and validity of the MSOC questionnaire (this is discussed further on). Between group differences could not be compared based on the three Change Continuum Likert rating scales due to small number in the M+E Group, however, the M Group reported significant improvements on all three Likert scales. Findings from other research including that of three randomized control trials, suggested that a motivational treatment lead to a higher motivation to change post treatment (Dean, et al., 2008; Dunn, et al., 2006; Wade, et al., 2009) with higher motivation levels leading to a greater number of patients who attended follow up (Dean, et al., 2008), and lower drop-out rates (Wade, et al., 2009). The results from the M Group are similar to findings by Feld (2001), who reported a statistically significant improvement on Likert continuum scales across each of the four group sessions, suggesting an increased motivation to change.

More than 50 percent of all patients reported an increase on the MSOC questionnaire, and the Change Continuums. A small proportion of the remaining patients who did not report a change, or reported a negative shift on these measures could be accounted for by a ceiling

effect, that is patients who entered treatment with high ratings had little opportunity to improve. It is also likely that negative shifts for some patients on these motivation scores reflect a more realistic approach to making changes to their behaviour, or may be representative of fluctuations of motivational state. It should be considered that a treatment designed to enhance motivation may not be the most appropriate course of treatment for patients who are ready and committed to take action (Miller & Rollnick, 2002b; Miller & Rose, 2009). While movement within the stages of change is expected to be fluid and fluctuate in both directions over time (Prochaska & Norcross, 2001) it is interesting to find such similar results between two groups with different content and delivery approach. It could be assumed that MI spirit helped to elicit the intrinsic motivation to change, thereby increasing importance, readiness and confidence to change within the M Group, although due to limited numbers we are not sure in the M+E Group would have had the same outcomes. While half of the patients reported an increase, the distribution of final Change Continuum scores suggests that a considerable number of patients are not in a position to make immediate change. The number of patients in the M Group who perceive their confidence, readiness and the importance to change as below a score of 8 on the Likert scales is 70%, 60% and 55% respectively. From an observational stand point (given the challenges with the validity and reliability of a Likert scale), it could be suggested that working towards developing the three core concepts or readiness, importance and confidence to change could be diluted with in a MI group setting. MI is defined as “responding differentially to client speech, within a generally empathetic person-centered style”(Miller & Rose, 2009). It is important that therapists and patients are given the opportunity to explore ambivalence and resistance to change. Staff consistently reported that they did not have enough time to explore these concepts with individual patients, as they were required to manage the group processes and complete multiple activities within a short time period.

Study population

The prevalence of patients according to eating disorder diagnoses varies compared to the prevalence reported by Fairburn (2008), he stated that within the general population there are greater number of patients with EDNOS, followed by BN and AN. The current population had 41% diagnosed with AN followed by 35.3% with EDNOS and 21.8% with BN. These differences could be due to the nature of the specialist service run by SIEDS, and as a consequence they have a greater number of more severe, typically very underweight with strong food restriction as seen in AN (J. Treasure & Ward, 1997). The removal of younger patients with BN to attend another group from September 2009 will also have contributed to the decrease in the BN patient sample.

Group treatments

A direct comparison of these two groups is difficult due to the different aims and goals each group was created to meet. M+E Group was designed to assist with wait list management while the M Group's primary aim was to enhance motivation to change. The M+E Group was based on CBT theory as it focused on delivering specific psychoeducational content with some motivational activities presented in a predominantly didactic style. The M Group was designed based on the findings of the only two group treatments studies that aimed to enhance motivation to change within eating disordered patients (Dean, et al., 2008; Feld, et al., 2001). The M Group incorporated the spirit and guiding principles of MI as outlined by Miller and Rollnick (2002).

The M+E Group, while having motivational aspects, did not meet the guiding principles (collaboration, evocation and autonomy) of MI as defined by Miller and Rollnick (2002). This is evident in the content of the first M+E group session, as the discussion of goals prior to beginning the group implied that individuals were prepared to change. Therefore, the group was not to elicit intrinsic motivation to creating change, but to imply

change was needed. It is possible that the initial goals were not realistic, leading to opportunities for a decline in self efficacy if patients were unable to meet these. The provision of information on starvation studies and set point theory set a tone for the group of education rather than evocation, as the information was imposed on the patient. Although the delivery of this information cannot be commented on, it is the act of providing the expertise without checking with the patient readiness to hear the information that can be seen as more in line with confrontational style rather than a collaborative approach. A directional and confrontational style was shown to increase patient resistance and poorer outcomes at 12 months in alcohol abuse patients (Miller, Benefield, & Tonigan, 1993). Although detailed information is provided during MET, it is presented from an enquiring stance with the therapist exploring the patients beliefs about their behaviour compared to norms (Miller, 1995). The content of first session of the M Group is more in line with the MI spirit, and considerable effort was made to ensure that patients are supported to build intrinsic motivation to change as outlined in the first phase of MI (Miller & Rollnick, 2002).

Session two of the M+E Group focused on presenting a formulation of an eating disorder, a practice more in line with Cognitive Behavioral Therapy. The benefits of providing a psycho educational group based on CBT creates an environment for change through self disclosure and confrontation of symptomatic behaviour, distorted ideas and negative beliefs (Glanz, Rimer, & Viswanath, 2008). In contrast the M Group implemented a greater number of interactive activities designed specifically to develop a discrepancy between the patient's current behaviour and their values. Groups that are interactive as opposed to didactic are reported to have greater reduction of eating pathology (Stice & Shaw, 2004).

The staff at the SIEDS did not include self monitoring in the M Group intervention, as it was reported to be difficult to provide the appropriate attention within a group setting. The

activities added to the M Group were done so to allow a greater investigation of ambivalence, self efficacy, developing discrepancy while promoting change talk.

While published research does not yet provide strong evidence for the use of MI within the field of eating disorders, it cannot be discounted as suggested by Waller (2012). Before a psychological therapy can be classified as "efficacious" it needs to be superior to a no treatment control group, alternative treatment group or placebo and needs to be replicated in at least two independent research settings (Chambless & Hollon, 1998). Specific challenges facing the current literature on MI and eating disorders according to Dray & Wade (2012) include; future research needing a greater focus on using stages of change measures that are valid and reliable and predict outcome across a range of outcomes, including behaviours, eating psychopathology and attitudes, BMI, general psychopathology and drop out. Consistent outcome measures that are widely used, reliable and valid such as the EDE score need to be used as an indicator of treatment outcome of eating disorders; that research should compare the relationship between initial stage of change and treatment outcome for patients with various diagnoses and ages; and finally research should continue to explore the association between stage of change and drop out, stage of change and other treatment adherence measures, including homework, treatment engagement and therapeutic alliance.

It is necessary for the writer to identify that the key pieces of published literature that report findings on enhancing motivation within a group setting (Dean, et al., 2007; Dean, et al., 2008; Feld, et al., 2001) do not clearly state that feedback was provided to patient's within these studies. The writer queries if these two studies are in fact true "MET" or if they are a group designed to enhance motivation through the use of MI spirit, as no mention of providing feedback was mentioned in the methodology or in the preceding literature review.

Recommendations

Conducting research within a clinical setting requires a balance between clinical case loads, limited resources and staffing. Establishing this balance can be challenging. The role of this evaluation to help to enhance clinical care while advocating for the evaluation of progress within a measureable way that can lead to benefits for patients, therapists, and service providers, as accountability is increasingly sought by society (Teachman, et al., 2012). The limitations identified in the current evaluation will be presented alongside recommendations for future consideration.

The Referral Process

A number of changes in referral process lead to differences between the two groups prior to treatment. Patients offered a place within the M+E Group were required to attend the group treatment prior to accessing individual therapy; therefore no patients were excluded from this population. This referral process to the M Group was altered by; a decline in patients seeking treatment from the SIEDS, another therapeutic group was introduced that removed younger, highly motivated bulimic patients from the M Group referral process, and the disruption caused by destructive and persistent earthquakes that plagued the Canterbury region since September 2010. As a consequence there was no need to provide group treatment to support a wait list management, resulting in a large number of patients received individual treatment while attending the M Group. This change in treatment provision significantly impacted the ability to reliably compare the effectiveness of both group treatments, and as a result the effect of the M Group could not be separated from progress made within individual therapy. Therefore the current evaluation cannot reliably state that any progress post M Group treatment is due to group process alone. It is suggested that consideration of future treatment to enhance motivation be provided as a true pre treatment, to increase reliability and validity of comparisons of treatment outcomes.

Attendance

Unfortunately the attendance and retention rates for both of the group treatments evaluated were poor. As reported in multiple publications (Fairburn, 2008; Fairburn, et al., 2009; Price-Evans & Treasure, 2011) the retention rates of patients with eating disorders in treatment is reduced compared to other psychological treatments. Patient attendance can be viewed in three steps, the "no shows" who did not attend one session, the "non completers" patients who began group treatment but did not finish, and the "completers", who attended all sessions.

In both treatments just over 20% of patients referred were "no shows", with 46% of patients in the M+E Group and 34% in the M Group considered "non completers". A combination of the "no shows" and "non completers" provides a total attrition rate of 70% for the M+E Group and 57% for the M Group. These attrition rates are far greater than reported in previous studies evaluating group motivation treatments in eating disorder populations with attrition rates between 17% and 30% (Dean, et al., 2008; Feld, et al., 2001). The significantly larger number of patients who completed the M Group may suggest that the empathetic client centered style of delivery in the M Group may help to improve engagement in treatment and retention rates. There are mixed findings based upon the impact of motivational interviewing on dropout rates within of eating disorder treatment. No significance between MI and self help treatment (Cassin, et al., 2008) or MI and CBT treatment (J. L. Treasure, et al., 1999), or initial stage of change (Feld, et al., 2001) related to drop out. However, Wade et al. (2009) found that patients who did not receive MI were 1.33 times more likely to drop out form the study. The current results pose the question of acceptability of group treatment to patients. Furthermore, a comparison of attendance based on ethnic group, specifically Maori and Asian patients revealed interesting results. Of the total Asian population 8.3% did not attend any sessions and over 50% of patients completed

all sessions. Notably 30% of Maori patients did not attend any treatment sessions and only 16% of Maori patients completed all of group sessions, regardless of which group they were allocated to. While it is documented widely that Maori face disparity in access to mental health services (Durie, 1999) future research and consideration is needed to identify ways of improving group attendance for this population. The use of motivational interviewing has been demonstrated to be effective when working with ethic minority groups, especially those that have experienced social rejection and societal pressure (Lundahl, et al., 2010).

Non attendance was related to statistically greater means on the Eating concerns and Shape concerns subscales of the EDE-Q. Further research is needed to establish the link (if any) between non attendance to a group and the possible lack of opportunities for positive self evaluation due to the over evaluation of shape and eating concerns (Fairburn, 2008).

While no significant findings were identified in the Dflex scores according to group prior to treatment or based on attendance. Considerably smaller standard deviations for both the cognitive rigidity and detail focus subscales were identified in those who did not attend treatment, suggesting that those who attended had a greater variability in the range of scores as a group. While research has demonstrated the validity of the Dflex when distinguishing individuals with and without eating disorders, very little research has been published using the Dflex within the clinical population. The current evaluation was not able to comment on the scores provided for either group as no norms are currently provided in published literature. It is recommended that this questionnaire be removed from future evaluation of motivation to change.

Data Collection Challenges

The ability to efficiently and reliably collect all of the data for the current evaluation was a challenge all staff members reported. An outline and the number of patients referred to each group and the completed data is presented in Table 28.

Table 28

Number of Patients and Data Collected for Both Groups

Data Collection Point	Measure	M+E Group	M Group
		n	*n*
Assessment	Number referred	145	107
	EDEQ-4	116	88
	BDI-II	124	89
	Dflex	8	85
	MSOC	8	84
Pre Treatment	No. who attended 1+ sessions	111	85
	EDEQ-4	61	25
	BDI-II	65	40
	MSOC	79	63
	CC	9	61
Post Treatment	No. who attended last session	65	55
	EDEQ-4	62	12
	BDI-II	63	20
	MSOC	62	47
	CC	7	46

The limited number of EDEQ-4 and BDI –II questionnaires collected during the final session of the M Group may be due to several reasons. Firstly staff state that the final session was always difficult to manage within the allotted 90 time frame, and consequently the longer questionnaires were neglected. Secondly staff reported that there was confusion regarding which questionnaires were to be collected at the end of the group. Furthermore, staff reported dislike of some of the current measures and decided not to use them. All staff members reported using the subjective change continuum scores and clinical observation of to evaluate patient's participation within the group. The ability to use the change continuums for multiple behaviours such as readiness to change restricting behaviour separately to excessive

patterns provided multiple qualitative records which staff stated was more consistent and meaningful to measure the patient's current beliefs. Staff stated that the current MSOC questionnaire is too narrow to capture the appropriate information, questioned its psychometric properties and reported general dissatisfaction with its current use.

The current evaluation was required to use assessment data in place of pre treatment data, as it had was not collected reliably. It was unfortunate that on many occasions treatment occurred several weeks after assessment, and that no pre assessment data was collected. There were also consistent difficulties with the ability to collect inpatient assessment data as the inpatient service uses different assessment protocols.

It is recommended that future treatment programs provide staff defined data collection points prior to and post treatment delivery. It would be incredibly beneficial to allocate time and possible administration support within the revised treatment protocol that allows patients and staff to complete, score and file data in a valid and reliable fashion. Ideally all data could be stored electronically to enable easy access within the hospital computer system, and to prevent paper files being misplaced.

Motivation to Change Assessment Measures

One of the greatest limitations in interpreting the current motivation to change results is the lack of psychometric validity and reliability of the main motivation to change measure. It is quite possible that the stages of change may be misrepresented on the MSOC questionnaire as no specific cognitions, emotions or behaviours are defined. A strongly resistant patient may endorse "Action- I have taken definite actions against the eating disorder in the past six months" in response to any or possibly only one cognitive, emotional or behavioural change they deem to be appropriate, while still resisting change in other aspects. While the MSOC attempted to collect information on a patients decision balance, it

was recorded in a manner which was neither easily accessible nor meaningful for the therapists working with the patient. It is recommended that future treatment consider using an alternative measure of motivation to change. One of the most frequently utilised measure of motivation to change is the University of Rhode Island Change Scale Assessment (URICA) (McConnaughy, DiClemente, Prochaska, & Velicer, 1989). It is a 32 item self report questionnaire that assesses the four stages of readiness to change. It is a generic scale that assesses the stages of change in any disorder with items on the scale referring to problems that need changing or the need for self improvement (McConnaughy, et al., 1989). However it is suggested that given the complex nature of nature of AN, individuals could be referring to any number of problems when responding to items thus making the answers uninterpretable and potentially over estimating a patients readiness to change (Rieger, et al., 2000).

An alternative readiness measure that is specific to the field of eating disorder is the Readiness and Motivation Interview (RMI) (Geller & Drab, 1999). While this can be used with any eating disorder, it is limiting due to the fact that the interviewer needs to be trained and it takes considerable time to administer. It is recommended that investigation of patient's stage to change completed by the SIEDS consider using the Anorexia Nervosa Stages of Change Questionnaire (ANSOCQ) (Rieger, et al., 2000). It is a 23 item self report questionnaire based on Prochaska and DiClemente's (1982) stage of change model created to provide a clear assessment of AN patients level of readiness to recover based upon three hypotheses; 1) deficits in readiness to recovery are pervasive in AN; 2) readiness is a predictor of outcome; 3) therapeutic interventions can enhance or undermine motivation for change. Developed on an inpatient population the ANSOCQ demonstrated concurrent validity with other motivational measures such as the URICA, with measures of treatment engagement and eating disorder symptomatology. Predictive validity was established as

ANSOCQ scores were a significant predictor of weight gain during inpatient treatment (Rieger, et al., 2000). Further evaluation of the ANSOCQ's psychometric properties identified significant correlations between ANSOCQ scores and the theoretical constructs of decisional balance and self efficacy (Rieger, Touyz, & Beumont, 2002). The ANSOCQ was later reduced from 23 to 20 items after three items that referred to readiness for treatment were removed as they were deemed theoretically distinct from readiness to recover (Rieger, et al., 2002).

Given the success with the ANSOCQ, a revision was created to assess readiness to recover in BN patients. The Bulimia Nervosa Stages of Change Questionnaire (BNSOCQ) also a 20 item self report questionnaire relates specifically to aspects of body satisfaction, bingeing, weight control, compensatory behaviours, sense of lack of control and emotional, personality and interpersonal problems. Sound psychometric properties were demonstrated, specifically internal consistency, test re test reliability and concurrent validity (Martinez, et al., 2007).

Given the psychometric properties of the ANSOCQ and the correlation to theoretically related constructs of decisional balance and self efficacy the writer recommends that the SIEDS utilize both the ANSOCQ and the BNSOCQ in future evaluations of patient stage of change.

Training in Motivational Interviewing

The issue of staff training was brought to the writer's attention by a review of the literature and the feedback from staff at the SIEDS. Staff reported that at times group co facilitators had no experience or training in MI. The current study is unable to provide commentary on the level of treatment integrity that either group treatment has with motivational interviewing, aside from the description of activities presented within treatment.

Miller and Rose (2009) aptly state “we know of no reliable and valid way to measure MI fidelity other than direct coding of practice samples”. It is through the analysis of transcripts of therapist- patient interaction using MI consistent techniques that research has supported the findings that increased frequency of change talk and commitment to change leads to greater behaviour change (Miller & Rose, 2009). The use of MI consistent and MI inconsistent methods by therapist are linked to changes in client’s speech and ultimately behavioural outcomes, as a therapist’s use of behaviours consistent with MI are reported to be followed by greater amounts of change talk, while MI inconsistent behaviours used by therapists were more likely to be followed with resistance to change talk (Aharonovich, Amrhein, Bisaga, Nunes, & Hasin, 2008; Amrhein, 2004; Amrhein, Miller, Yahne, Palmer, & Fulcher, 2003; Miller & Rose, 2009). Findings have suggested that the amount of “change talk” made by patients was directly related to patient behaviour change, specifically a reduction in drinking (Moyers, et al., 2007; Moyers, Martin, Houck, Christopher, & Tonigan, 2009). As an evaluation of MI treatment integrity is completed by identifying the number of “MI consistent” and “MI inconsistent” responses made by therapists during sessions with clients(Miller, Yahne, Moyers, Martinez, & Pirritano, 2004). A randomized trial conducted by Miller et al. (2004) compared four MI training methods (a two day clinical workshop only, the workshop plus practice feedback, workshop plus individual coaching sessions, workshop and coaching and feedback, and a waitlist control group of self guided training). Therapists’ proficiency in MI was evaluated at multiple time points (baseline, post training, 4 months, 8 months and 12 months post training). Findings showed that the two day workshop course lead to significant improvements across all groups, but the workshop only group regressed to a point that was comparable to the wait list group at 4 months without further training and support. Findings also suggest that coaching and /or individual feedback provided to the therapists help to maintain gains in clinical proficiency. Furthermore, results suggested that training did not increase MI consistent responses but rather decreased MI inconsistent

responses across the groups, suggesting that trainees started with relatively high levels of MI consistent responses and improved in ratings of the overall MI spirit ratings. Only therapists who had received the workshop training, feedback and coaching had client who made significant behaviour change (Miller, et al., 2004). Interestingly clinicians who had trained in MI reported larger improvements in MI delivery, while evaluation through third party observation demonstrated significantly smaller improvements in MI consistent techniques (Miller & Mount, 2001).

It is recommended that further developments in treatment to enhance motivation consider training, feedback and coaching for therapist involved in delivering treatment. There are specialized MI trainers in Christchurch and the writer is aware of professional development opportunities held within the University of Canterbury that are dedicated to motivating behaviour change in health settings, with a specific focus on MI. The Feld (2001) and Dean et al. (2008) studies did not report specific training or monitoring or supervision for MI or MET. It is recommended that a continued monitoring of MI style and technique be implemented. The Revised Global Scales: Motivational Interviewing Integrity (3.0) (MITI) was developed to measure the integrity of MI (Moyers, Martin, Manuel, Hendrickson, & Miller, 2005). The MITI developers concluded that the stringent coding systems indicate good sensitivity for detecting improvement in clinical practice as a result of MI training (Moyers, et al., 2005). The construct validity of MI was identified using a factor analysis of 120 MITI coded sessions and concluded that the MITI can be used as a way of evaluating MI integrity in clinical research in addition to being a training tool (Forsberg, Berman, Kallmen, Hermansson, & Helgason, 2008). Research has also demonstrated that it is possible to determine whether group MI is implemented with integrity by using the MITI (D'Amico, et al., 2012).

Group Motivational Interviewing

In the consideration of adapting MI for a group delivery it is important remember that MI is a process of navigation unlike the patient education process. Behaviour change occurs in MI when individuals weigh relevant reasons for change with short term rewards of behaviour (Miller & Rollnick, 2002b). Because of the complex interactions within a group, there is a greater possibility for discrepancy diffusion, non participation, resistance and collective argumentation (Walters, Ogle, & Martin, 2008). Considering that psycho linguistic analysis has demonstrated that behaviour change is associated to greater frequency of change talk during therapy sessions (Amrhein, 2004), the time in which a patient is given to talk within a group is automatically limited. When asked to describe the challenges faced with delivering the current M Group intervention staff stated that it is difficult to "reach" all of the patients in a group. The lack of control over the referral process has posed challenges with the group process especially with there is a mixture of diagnoses, age ranges and body sizes. The inclusion of younger patients was at times difficult as intrinsic motivation to change was difficult to elicit. Older patients were also reported to struggle with engagement in the group when it consisted of predominantly younger patients. Staff also stated that the older patients were reported to be a motivating factor for the younger patients. It has been suggested that MI groups would benefit from two therapists, one can express empathy and the second can monitor and roll with resistance (Walters, et al., 2008). Staff reported that while this is the preferred M Group treatment delivery, it does not always occur due to staffing and time constraints, and that a sole group facilitator is at times challenged to engage all patients appropriately.

Final Considerations

Although group treatment have benefits for patients and are a cost effective way for a service provider to a deliver a treatment, the use of MI and MET within a group format is still being evaluated for enhancing various behaviour change, not just within eating disorders. Given the high level of ambivalence and reluctance to change within the eating disordered population an individual therapy component utilizing an MI consistent approach may have a greater impact on engaging patients. This could be particularly advantageous given the high attrition rate across the group treatments. Future treatment could consider including an individual MET as a pre treatment component. While the decision of the number of sessions will most likely be influenced by resource availability, positive findings have been demonstrated in studies that have used single session MET to assist in has demonstrated improvement within motivation (Gowers & Smyth, 2004) and symptom reduction (Cassin, et al., 2008; Dunn, et al., 2006). It is possible that the SIEDS current assessment protocol could be adapted slightly to include alternative motivation and readiness measures, which could then be feed back to patients in an MI consistent way while measuring treatment adherence (as mentioned previously). A meta analysis of research published during the last 25 years concluded that if MI is to be integrated with other treatment modalities such as CBT, use of basic MI is the better choice. However if the goal is to target specific behaviour changes and is separate from another treatment programme then MET will produce significantly greater results (Lundahl, et al., 2010). If the most effective index of motivation is early behavioural change as Waller (2012) suggest then perhaps MET could provide greater behaviour change. While resources allocation needs to be considered, the acceptability of the current treatment needs to be considered and reviewed. Although further evaluation is required to determine if an individual treatment would lead to the same attrition rates, initial individual treatment may help to reduce some of the challenges staff reported when facilitating a group, such as

differences in; age, eating disorder symptoms, inability to sustain concentration as a consequence to starvation, BMI, varying individual needs associated with different levels of readiness confidence and importance to change. The outcome of this individualized treatment may be useful in guiding inclusion criteria for later group involvement.

The recommendation for individual MET does not necessarily lead to the removal of the M Group, but hopes to increase opportunities to evaluate processes of enhancing motivation in patients with eating disorders. The format of the M Group could be reviewed and could either run as either a closed or open group. Open groups are flexible with course content and patients can join at any stage, or it could remain as a closed group, with defined start and end dates. As reported above strong protocols will need to be designed to ensure effective and reliable data collection no matter which further motivational treatment is delivered. The writer and staff suggests including follow up opportunities for future motivational treatments.

Finally, reflecting of Miller and Rollnick's (2002) analogy of climbing a mountain, the current evaluation has identified that the two groups have helped a proportion of patients make varying levels of progress as they ascend the mountain of change. The importance, confidence, readiness and commitment to change need to come from within an individual and have increased in some patients. While the findings of the evaluation show variability in progress up the mountain, the overall conclusion is that further evaluation is warranted and required to understand how we can guide a greater number of patients to manage the overwhelming resistance or ambivalence to change that is so frequently observed within the population.

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Appendix A

Motivational Group Feedback from Staff

Thank you very much for assisting me in the evaluation of the Motivational Group. I would appreciate it if you could complete the following questionnaire and return it in the enclosed envelope.

If you have any questions or additional comments I can be reached on the number/ email below

Many thanks,

Michelle Davey

1. Please describe your experience/training with Motivational Interviewing.

2. Please describe your experience with both the Motivation and Education group and the current Motivational Group.

3. How many groups have you facilitiated/ contributed to?

4. Overall how satisfied are you with the current motivational group format and process?

5. Is there any additional support you would like as a facilitator/presenter?

6. Please describe the aspects of the group that contribute to positive changes within the patient.

7. Please describe the aspects of the group that can hinder positive changes within the patient.

8. What are the most challenging aspects of facilitating/ presenting to the group?

9. How do you analyze and report the progress and outcome of each patient?

10. Please describe your process of collecting and recording data pre and post group.

11. Is there additional data you believe could assist in evaluating outcomes of the motivational group?

12. Are there any changes you would like to make to the group format or the content presented?

13. Is there anything else which you would like to add?

Appendix B

Eating Questionnaire (EDE-Q4)

The following questions are concerned with the PAST FOUR WEEKS ONLY (28 DAYS). Please read each question carefully and circle the appropriate number on the right. Please answer **all** the questions.

On how many days out of the past 28 days.....	No days	1-5 days	6-12 days	13-15 days	16-22 days	23-27 days	Every day
1. Have you been deliberately trying to limit the amount of food you eat to influence your shape or weight?	0	1	2	3	4	5	6
2. Have you gone for long periods of time (8 hours or more) without eating anything in order to influence your shape or weight?	0	1	2	3	4	5	6
3. Have you tried to avoid eating any foods which you like in order to influence your shape or weight?	0	1	2	3	4	5	6
4. Have you tried to follow definite rules regarding your eating in order to influence your shape or weight; for example, a calorie limit, a set amount of food, or rules about what or when you should eat?	0	1	2	3	4	5	6
5. Have you wanted your stomach to be empty?	0	1	2	3	4	5	6
6. Has thinking about food or its calorie content made it much more difficult to concentrate on things you are interested in; for example, read, watch TV, or follow a conversation?	0	1	2	3	4	5	6
7. Have you been afraid of losing control over eating?	0	1	2	3	4	5	6
8. Have you had episodes of binge eating?	0	1	2	3	4	5	6
9. Have you eaten in secret? (do not count binges)	0	1	2	3	4	5	6
10. Have you definitely wanted your stomach to be flat?	0	1	2	3	4	5	6
11. Has thinking about shape or weight made it more difficult to concentrate on things you are interest in; for example read, watch TV or follow a conversation?	0	1	2	3	4	5	6
12. Have you had a definite fear that you might gain weight or become fat?	0	1	2	3	4	5	6
13. Have you felt fat?	0	1	2	3	4	5	6
14. Have you had a strong desire to lose weight?	0	1	2	3	4	5	6

15. On what proportion of times that you have eaten have you felt guilty because the effect on your shape or weight? (do not count binges) (circle the number which applies).	0 - One of the times 1 - A few of the times 2 - Less that half the times 3 - Half the times 4 - More than half the times 5 - Most of the time 6 - Every day	
16. Over the past four weeks (28 days), have there been any times when you have felt that you have eaten what other people would regard as an unusually large amount of food given the circumstances? (please put appropriate number in box).	0 - No 1 - Yes	☐
17. How may such episodes have you had over the past four weeks?		☐
18. During how may of these episodes of overeating did you have a sense of have lost control over your eating?		☐
19. Have you had other episodes of eating in which you have had a sense of having lost control and eaten too much, but have <u>not</u> eaten an unusually large amount of food given the circumstances?	0 - No 1 - Yes	☐
20. How many such episodes have you had over the past four weeks?		☐
21. Over the past four weeks have you made yourself sick (vomit) as a means of controlling your shape or weight?	0 - No 1 - Yes	☐
22. How many times have you done this over the past four weeks?		☐
23. Have you taken laxatives as a means of controlling your shape or weight?	0 - No 1 - Yes	☐
24. How many times have you done this over the past four weeks?		☐
25. Have you taken diuretics (water tablets) as a means of controlling your shape or weight?	0 - No 1 - Yes	☐
26. How may times have you done this over the past four weeks?		☐
27. Have you exercised hard as a means of controlling your shape or weight?	0 - No 1 - Yes	☐
28. How many times have you done this over the past four weeks?		☐

Over the past four weeks (28 days) - please circle the number which best describes your behaviour -	Not at all		Slightly		Moderately		Markedly
29. Has your weight influenced how you think about (judge) yourself as a person?	0	1	2	3	4	5	6
30. Has your shape influenced how you think about (judge) yourself as a person?	0	1	2	3	4	5	6
31. How much would it upset you if you had a to weigh yourself once a week for the next four weeks?	0	1	2	3	4	5	6
32. How dissatisfied have you felt about your weight?	0	1	2	3	4	5	6
33. How dissatisfied have you felt about your shape?	0	1	2	3	4	5	6
34. How concerned have you been about other people seeing you eat?	0	1	2	3	4	5	6
35. How uncomfortable have you felt seeing your body; for example, in the mirror, in shop window reflections, while undressing or taking a bath or shower?	0	1	2	3	4	5	6
36. How uncomfortable have you felt about others seeing your body; for example, in communal changing rooms, when swimming or wearing tight clothes?	0	1	2	3	4	5	6

Appendix C

South London and Maudsley
NHS Foundation Trust

KING'S College LONDON

www.eatingresearch.com
from the Section of Eating Disorders
at the Institute of Psychiatry and
the Eating Disorders Unit at SLaM

Detail and Flexibility Questionnaire (DFlex)

Below are a list of statements. Please circle the response that best describes to what extent you agree or disagree with each statement.

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
1. I get angry if people do not do things my way	1	2	3	4	5	6
2. I sometimes bore others as I go on to an excess about some things	1	2	3	4	5	6
3. I get upset if other people disturb my plans for the day by being late	1	2	3	4	5	6
4. I have difficulty making decisions	1	2	3	4	5	6
5. When others suggest a new way of doing things, I get upset or unsettled	1	2	3	4	5	6
6. I find it difficult to remember the story line in films, plays or books, but can remember specific scenes in great detail	1	2	3	4	5	6
7. Once I get into an emotional state, eg anger or sadness, it is very difficult to soothe myself	1	2	3	4	5	6
8. I spend as much time on more or less important tasks	1	2	3	4	5	6
9. I like to make plans about complex arrangements, eg journeys and work projects	1	2	3	4	5	6
10. I can get hung up on details when reading rather than understanding the gist	1	2	3	4	5	6
11. I have high levels of anxiety/discomfort: I can see/feel/taste that things might not be quite right	1	2	3	4	5	6
12. I tend to focus on one thing at a time and get it out of proportion to the total situation	1	2	3	4	5	6
13. I like doing things in a particular order or routine	1	2	3	4	5	6
14. I can get lost in details and forget the real purpose of a task	1	2	3	4	5	6
15. I can be called stubborn or single minded as it is difficult to shift from one point of view to another	1	2	3	4	5	6
16. I find it difficult to do several things at once (multitasking)	1	2	3	4	5	6
17. I need clarity and rules when facing a new situation. Without rules, I easily feel lost	1	2	3	4	5	6
18. I find it hard to see different perspectives of a situation	1	2	3	4	5	6
19. I get very distressed if plans get changed at the last minute	1	2	3	4	5	6
20. I can get overwhelmed by too many details	1	2	3	4	5	6
21. I dislike change	1	2	3	4	5	6
22. I depend on others to help me get things into perspective, as I tend to have a rather blinkered view on things in my life	1	2	3	4	5	6
23. I often feel vulnerable and unsafe as I am unable to see threats (or opportunities) that are out of my field of vision	1	2	3	4	5	6
24. I find it hard to write concisely: I often overrun word limits and find it difficult to decide which details can be left out	1	2	3	4	5	6

Appendix D

Motivational Stages of Change

1a. Where are you in this process? Circle the stage that best describes you.

Precontemplation	Other people think I have an eating disorder, but I don't, or I don't want to change.
Contemplation	I realise I have an eating disorder, but I'm not sure I'm ready to change.
Preparation	I'm planning to "take action" against the eating disorder in the next 1 to 6 months.
Action	I have taken definite actions against the eating disorder within the past six months. **Please check those actions that apply at the bottom of this page.**
Maintenance	I am working to maintain the changes I have made to "take action" against the eating disorder. **Please check those actions that apply at the bottom of this page.**
Recovery	I have taken action against the eating disorder and am now fully recovered. **What was the approximately date of your recovery? Month/ Year** **Describe how you know you have recovered:** _____

1.b How sure are you that this is the stage you are at? (circle your rating)

1	2	3	4	5	6	7
Not Sure at all			Sure			Very Sure

Taking Action against an Eating Disorders involves starting to:

__ 1. Give up dieting (not dieting, means eating regular meals and snacks to meet your body's needs).
___ 2. Give up excessive exercising.
___ 3. Give up bingeing/
___ 4. Vomiting
___ 5. Or laxative abuse
___ 6. Recognise, express and deal with emotions.
___ 7. Other (is there anything else that it would mean to you? _____)

Now please complete the back of this questionnaire...

2. Estimate how much of your daily life revolves around the eating disorder? (circle one):

    1. None of my day
    2. 1/4 of my day
    3. 1/2 of my day
    4. All of my day
    5. Does not apply

3. If you are "taking action" against the eating disorder, are you doing so (circle one):

    1. Mostly for yourself
    2. Mostly for others
    3. Equally for yourself and for others
    4. Just to get out of hospital/treatment
    5. Does not apply

4a. At this time, what do you see as the PROs (or benefits) of "taking action" against the eating disorder? What do you see as the CONs (or costs) of "taking action"? Please list below.

PROs of Changing	**CONs of Changing**

4b. Overall, which are **stronger** for you at this time, the PROs or the CONs of changing? Circle the statement that best describes you.

PROs are much stronger	PROs are stronger	PROs are a littler stronger	They are the same strength	CONs are a little stronger	CONs are stronger	CONs are much stronger

Appendix E

Session 1 & 4: Continuum Worksheets: Thinking about bringing changes in your life.

How important is it to you to change?

Not at all important Extremely important

0 1 2 3 4 5 6 7 8 9 10

Comment:……..

How confident are you that you can change?

Not at all confident Extremely confident

0 1 2 3 4 5 6 7 8 9 10

Comment:……..

How ready are you to change?

Not at all ready Extremely ready

0 1 2 3 4 5 6 7 8 9 10

Comment:……..

What stage of change are you at now?

Precontemplation Contemplation Preparation Action Maintenance

Comment:……